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COLLEGE EXTENSION SERIES IV

HOME-STUDY SERVICE

Announcement of Courses and General Information

PART II.—VOCATIONAL COURSES

PART III.—CREDIT COURSES

The service of YOUR college brought
as near as your mail box



MANHATTAN, KANSAS

PUBLISHED BY THE COLLEGE

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HOME-STUDY SERVICE

The Purpose of the Home-Study Service

What is known as the "efficiency movement" is one of the most significant movements of modern life. To the business man and manufacturer it means satisfactory handling and production of wares with the least possible outlay. The movement calls for the development and application of scientific knowledge. In its pursuance old-time methods have been supplanted and modern inventions have been introduced.

This movement is spreading rapidly and is touching every line of work. It is back of the recent large expansion in practical arts education, and the fact that young men and women of college training along these lines go out and make good is sufficient justification for all that has been done in developing this type of training.

The movement has also brought us to appreciate that education is a life-long process; that the big problem is to catch the pace and keep growing lest we fall behind in the rapid march of progress.

The demands of this situation account for the recent phenomenal growth of extension education. There are many people in Kansas who for many reasons cannot attend classes on the college campus, or are past the stage where this would be advisable, but who can use the facilities of the college to great advantage. The *Home-study Service* is a part of the Extension Division of the Kansas State Agricultural College, designed to make the state its campus—to enable the College to come to those who cannot come to it.

Once it was thought that educational problems could be solved only in the classroom, where subject matter was chosen from a textbook. To-day it is realized that the home, the farm, and the shop are calling continually for the solution of problems upon which the future of the people of the state depends. A barren soil, an unprofitable herd, an insanitary home, and kitchen wastes are but petty examples of the innumerable difficulties to be overcome. Years of experience and observation have enabled many to solve their problems with some degree of success, but the lack of scientific knowledge is responsible for many individuals experimenting extravagantly and often uselessly. A combination of experience and training in scientific methods is best.

One way of meeting these situations is through correspondence courses. They are no longer an experiment but are a demonstrated success. With them odd hours of spare time can be made to count. The gross time required to complete correspondence courses is practically the same as would be necessary for the same courses in school. Taken where they may be applied to a practical situation they may be even better. Correspondence courses may be started at any time; they wait when one is busy; they are instantly ready when one has time—in fact, they are made to order for the busy person.

For Whom Intended

Though credit courses offered by the Home-study Service are still limited, the number is steadily growing and it is the purpose of the department to add courses whenever a demand for them becomes evident. The other types of work are sufficiently broad to be of value to a great variety of people. The following classes in particular should be able to profit by the courses offered:

1. Those who have completed a common-school course but who for any reason are unable to attend high school.
2. High-school graduates temporarily or permanently unable to attend college.
3. Students whose attendance at high school or college has been interrupted.
4. Students who for any reason have fallen behind in their work and wish to use their spare time catching up.
5. The strong, aggressive student who does not wish to halt his progress for vacations and other interruptions.
6. High-school and grade classes in practical courses that need supplementing and enrichment.
7. Teachers who wish further professional or other training, or who need help in planning and conducting their work.
8. Professional and business men who wish to keep growing along some line of interest, industrial or avocational.
9. Clubs and other organizations that wish to make systematic studies.
10. Men and women who wish effective help in meeting the demands in their vocations for technical and scientific knowledge and training.

The Organization of the Home-Study Service

The Department of Home-study Service of the Division of College Extension was organized to form a close connecting link between the work of the resident classes and those who are doing outside work. The instructors employed in this department are selected not only because of their technical preparation, but also because they have made careful study of the methods of correspondence teaching. They devote their entire time to this work and can thus give their students the advantage of the help of a specialist both in subject matter and in method of teaching.

It will be observed that each division of the College has one or more representatives in this department. While such representatives are specially responsible for the correspondence teaching, yet they come into very close touch with the resident instructors who are handling the same subjects, and they have full advantage of the research work being conducted in laboratories, libraries, seminars, and experiment stations.

This plan of organization gives every person who takes advantage of the Home-study a personal representative at the College to furnish him technical information in a form which can be most readily understood.

Since the adoption of this plan of organization it has proved its efficacy in the increased number of students who have completed their courses in a satisfactory manner.

The department attempts to meet the widely varying needs and conditions of the people of the state. To make it practical for those who are not accustomed to regular habits of study, as well as for those who are studiously inclined, the service is rendered in the following forms:

1. *Free Reading or Unit Courses*, each of which is a one-lesson treatment in a simple, brief, and non-technical way of a single problem or unit of subject matter for which there is a demand in some phase of practical every-day life. The courses in this list are so numerous and varied that few interests are not touched by them. That they may be readily available and freely used by all to whom they would be helpful they are made free to residents of the state. Full particulars about Free Reading Courses will be found in Part I of the Home-study Service Announcement.

2. *Vocational Courses*, which are complete, comprehensive courses adapted to the needs of those who are ambitious for thorough, scientific training to meet in an effective way the many practical and technical problems found in the various vocational activities. These afford the nearest possible home equivalent of a college education and offer the particular advantage of utilizing the practical situations of life as their laboratory exercises. For full information concerning the Vocational Courses refer to Part II, the first section of this bulletin.

3. *Credit Courses*, which are offered for those who for any reason are unable to attend school and wish to do work of a type that can be used for college or high-school credit. These courses are also of value to those who wish to use their time to advantage when school is not in session. For further information concerning Credit Courses, refer to Part III, the last section of this bulletin.

4. *Special Courses for Teachers*, which are a series designed as helps for teachers of industrial, agricultural, and home economic subjects. A particular effort is made in these courses to make available to the teachers of the state all the materials and aids which the Kansas State Agricultural College can offer them.

5. *Emergency Courses*. During the war a number of those courses were offered to help meet the new difficulties and duties imposed. It is the purpose of the department to continue a service of this kind. Whenever new situations arise calling for such courses, requests for them will be appreciated.

6. *Study Centers*. Under regulations established for this purpose study centers may be arranged where college subjects may be studied under the personal direction of members of the College faculty.

7. *Information Service*, the purpose of which is to afford a definite source to which technical or informational questions may be referred. All such questions which are referred to the Home-study Department will be answered promptly, if possible, or referred to a specialist in the College or elsewhere, who will supply the information desired.

8. *Lantern-slide Service.* A number of sets of lantern slides on agricultural and economic subjects have been prepared by specialists in the College with particular reference to Kansas conditions. These will be loaned free of cost (except transportation charges) to any responsible resident of Kansas.

The experience of the many who have successfully and profitably completed courses offered has proved that there is a demand for the kind of work given by the Department of Home-study Service. The sole purpose for which this department exists is that of rendering a service to the people of the state. For further information concerning any of the above features, write to the

DIRECTOR, HOME-STUDY SERVICE.

K. S. A. C.

MANHATTAN, KAN.

How the Work Is Conducted

In correspondence courses the assignment usually takes the form of assigned readings, studies, and investigations, together with a list of questions and directions for a written report. To save postage and trouble in mailing numerous lessons, the correspondence lesson is usually much longer than the common lesson in resident class work. When necessary the lesson may be accompanied by a lecture prepared by the instructor, containing helpful outlines and explanations, additional subject matter, and such special directions as seem desirable. The lessons are modified from time to time as suggested by experience and as new information becomes available.

As soon as an enrollment card and fee are received at the Department of Home-study Service, assignments 1 and 2 are immediately sent out, and each time a report is received an additional assignment is sent. This plan keeps work always at hand for the student and at the same time makes it possible for the instructor to keep in close touch with the student's progress and to offer from time to time such suggestions as seem desirable to guide the student in his work. As a rule the student should make careful study of the corrections, comments, and suggestions upon receiving a returned paper before going further with succeeding lessons.

The progress made by the student depends entirely upon his ability, preparedness, and application. As a general suggestion it might be stated that an hour a day spent in systematic study should enable the average student to complete an assignment a week. Students may work more rapidly if their opportunities permit; lessons will be received as rapidly as is consistent with good work. Under no circumstances, however, will hastily prepared manuscripts showing superficial knowledge be accepted.

The questions accompanying each assignment are intended to help the student to a better understanding of the subject. After careful study of the assignment, or division of the book, the student should write his

manuscript for that assignment, answering the questions carefully and concisely. This manuscript should be mailed at once to the Department of Home-study Service, where all lesson papers are read carefully, criticized, marked, and returned to the student, with such comments, suggestions, advice, and additional references as may be deemed necessary. This plan is continued throughout the course, and each student should feel free to ask questions, relate his personal experience, and in every way possible get into close contact with his instructors. No effort is spared by the department to bring about the nearest possible approach to personal acquaintanceship between each instructor and his students.

Fees

Only a minimum fee is charged for correspondence courses. Different plans are used for the different types of courses as indicated in the special information concerning them. These fees do not in any sense of the word cover the cost of offering the courses. The Department of Home-study Service, as a part of the State Agricultural College, is supported by the state for the benefit of its people and the fees charged for correspondence courses bear about the same relation to the actual cost as do registration fees for students who attend the College on the campus. For nonresidents of Kansas a larger fee is charged.

Grades

In marking papers the same system of grading is used which is used throughout in the resident classes of the Kansas State Agricultural College.

The quality of the work is designated by the letters E, G, M, P, C, F, and U, having the following significance and order of rank:

The grade E designates really distinguished achievement, and is the net resultant of exceptionally good mental ability in conjunction with serious application.

The grade G represents superior achievement, better than that exhibited by average students, but not distinguished. It is recognized as a mark of considerable honor, and is the resultant of high ability and fair application, or of fair ability and serious application.

The grade M represents the standing of about half of all students in the College. It means achievement equal to that of average students and includes about half of all students' grades. It indicates neither superior nor inferior accomplishment.

The grade P represents achievement of a grade below that of average students. It indicates a student's position as being in the upper part of the lower fourth of the class, and his work as being such as may be described as poor or inferior.

The grade C, meaning conditioned, is the symbol used to represent two types of inferior work: (a) That which is deficient in quality, and (b) that which is satisfactory as to quality but inadequate as to quantity.

The grade F, meaning failure, is used to indicate work that is so unsatisfactory as to require that the work be repeated to receive credit.

The letter U, meaning unfinished, is reported when, in the judgment of the instructor, the student deserves further time to complete work which has been interfered with by illness or other excusable causes of delay.

This is the system of grading used in all departments of the College and is worked out on a scientific basis. The system also involves a few points as to the distribution of grades, which it is necessary for the student to know to appreciate their significance. The letters do not represent certain parts of a percent scale, and cannot be expressed in percent, but are a measure of comparative strength among students, and their values are such that among a large number of students about 5 in 100 would be assigned E, 20 in 100 G, 50 in 100 M, 20 in 100 P, and 5 in 100 F or U.

Report Cards

Whenever a subject is satisfactorily completed and the examination passed, a report card is issued to the student showing the final grade in the course. Records are also kept in the department so that information can be supplied about the work in the course at any subsequent time.

PART II

Vocational Courses

(Fees, to residents of Kansas, \$3 for single subject; \$15 for complete series of 8 subjects; to nonresidents, \$6 and \$30.)

These Vocational Courses are prepared for those out in the field of practical work who wish to secure in a systematic way technical and scientific training and information that can be applied directly in their work. The courses do not give any credit that can be applied toward graduation in high school or college, but they provide the nearest possible home approach to a college education.*

Those who "did not have a chance to go to college" can no longer say that they do not have educational opportunity. The College can come to them. Those actively engaged in any of the trades, in agricultural pursuits, or in home occupations are surrounded with the most practical laboratories possible. Situations await on every hand to test theories and enrich the live student's store of workable information. Herbert Quick stated a great truth when he said, "The farm is a better educational plant than money can buy in a city if we only develop a school system that will make use of it."

If those engaged in practical work will use their spare hours in study bearing upon their work, it will give an enjoyment and appreciation to both which might not otherwise be found, but there will also be practical results, measured by more healthful homes, lightened labor, increased harvests, and larger bank accounts.

These Vocational Courses are open to every individual who wishes to improve his abilities. There are no entrance examinations and no prerequisite requirements save the ability to do profitably the work of the courses, and of this each person is his own judge.

The Plan of the Vocational Courses

The subjects in the Vocational Courses are arranged in groups so as to form a systematic course of study for those who desire to pursue a definite line. To illustrate, if in the work in Agriculture one desires a course in Animal Husbandry, one should take each of the five required subjects under that head. Any three from the list of electives applying to agricultural courses may then be chosen. By special arrangement with this department, this choice may be made from any other list shown in this pamphlet. This would complete the subjects required for the Vocational Course in Animal Husbandry, and would entitle the student to the Vocational Course Certificate.

* Any of the credit courses listed in Part III may also be taken as vocational or non-credit courses.

EXAMINATIONS. In each subject, before the report card is issued, an examination is required. This examination may be taken at the office of the Home-study Service at the College without charge. If it is not convenient for the student to come to the office for this examination, arrangement can usually be made to take it before a county superintendent, city superintendent, or principal of schools, in which case this department will send out the examination questions and directions to such person for conducting the examination. All such examination papers will be sent to the department to be graded.

HOME-STUDY CERTIFICATE. A certificate will be awarded upon the satisfactory completion of the required work and the necessary electives in any course. This certificate is not a college diploma, but it bears the same relation to a correspondence course that a diploma bears to a regular college course. The certificate will be attractively designed and will bear the name of the student and the name of the course completed. It will be signed by the Dean of the Division of College Extension and by the Director of the Department of Home-study Service.

FEES. The fee to residents of Kansas for Vocational Courses is three dollars per subject or fifteen dollars for a complete course of eight subjects. To nonresidents of the state double these fees will be charged. When taking a complete course, subjects may be paid for one at a time till five are paid for, then the other three will be available free of charge, or the entire fee for the series of eight courses, fifteen dollars for residents of Kansas and thirty dollars for nonresidents, can be paid at the start.

Agricultural Courses

AGRONOMY

Required Subjects:

1. EA 1. Essentials of Agriculture.
2. EA 2. Elementary Agricultural Chemistry.
3. EA 3. Soils.
4. EA 4. Cereal Crops.
5. EA 5. Forage Crops.

(Select three additional subjects from list of electives.)

HORTICULTURE

Required Subjects:

1. EA 1. Essentials of Agriculture.
2. EA 2. Elementary Agricultural Chemistry.
3. EA 3. Soils.
4. EA 6. Gardening.
5. EA 7. Orchardng.

(Select three additional subjects from list of electives.)

ANIMAL HUSBANDRY

Required Subjects:

1. EA 1. Essentials of Agriculture.
2. EA 2. Elementary Agricultural Chemistry.
3. EA 8. Feeds and Feeding.
4. EA 9. Animal Breeding.
5. EA 10. Types and Classes of Livestock.

(Select three additional subjects from list of electives.)

DAIRYING

Required Subjects:

1. EA 1. Essentials of Agriculture.
2. EA 2. Elementary Agricultural Chemistry.
3. EA 8. Feeds and Feeding.
4. EA 11. Farm Dairying.
5. EA 9. Animal Breeding.

(Select three additional subjects from list of electives.)

POULTRY HUSBANDRY

Required Subjects:

1. EA 1. Essentials of Agriculture.
2. EA 2. Elementary Agricultural Chemistry.
3. EA 8. Feeds and Feeding.
4. EA 12. Poultry Production.
5. EA 9. Animal Breeding.

(Select three additional subjects from list of electives.)

List of Elective Subjects Applying to the Agricultural Courses

- EA 9. Animal Breeding.
- EA 26. Beef Production.
- EA 4. Cereal Crops.
- EA 21. Dairy Manufacturing.
- EA 25. Dry-land Farming.
- EA 11. Farm Dairying.
- EA 19. Farm Forestry.
- EA 8. Feeds and Feeding.
- EA 17. Floriculture.
- EA 5. Forage Crops.
- EA 16. Greenhouse Management.
- EA 24. Horse Production.
- EA 27. Hog Raising.
- EA 13. Insects Injurious to Farm Crops.
- EA 15. Insects Injurious to Garden Crops.
- EA 14. Insects Injurious to Orchard Crops.
- EA 18. Landscape Gardening.
- EA 6. Gardening.
- EA 7. Orchardng.
- EA 12. Poultry Production.
- EA 28. Sheep Raising.
- EA 3. Soils.
- EA 10. Types and Classes of Livestock.

By special arrangement with this department, students may choose from other lists of electives described in this pamphlet or from list of credit courses.

Detailed Information Regarding Each of the Subjects in the Agricultural Courses

EA 1. ESSENTIALS OF AGRICULTURE. 16 assignments. This subject covers the general principles and practices of agriculture in an elementary and yet thoroughly scientific manner. The lessons are planned to give the student a fundamental knowledge of the different phases of soil management, crop production, and animal husbandry, poultry raising, orcharding, gardening, and other branches of agriculture. This work is recommended before taking up special studies.

Text: Waters, *Essentials of Agriculture*. Chicago: Ginn & Co. \$1.25.

EA 2. ELEMENTARY AGRICULTURAL CHEMISTRY. 18 assignments. The student of scientific agriculture does not proceed far until he finds himself handicapped unless he knows the essential facts and principles of chemistry. This course is prepared for the man who has not had high-school or college work in this subject, but who needs as a foundation for specific studies in agriculture a practical familiarity with the chemistry of soils and fertilizers, plant growth, feeds, and nutrition, and the various other applications of this science to farm problems.

Text: Kahlenberg and Hart, *Chemistry and Daily Life*. Chicago: The Macmillan Co. \$1.25.

EA 3. SOILS. 15 assignments. These lessons are to cover the subject of soils in all phases, with emphasis placed upon the handling of soils to conserve the moisture. A study will be made of the nature, functions, origin, texture and composition of soils; the kinds of soil and their classification; humus, its relation to moisture and nitrogen; soil water, its function in the soil and the capacity of soils for water; conservation of soil moistures; soil temperature; relation of air to soil; fertilizers; farm drainage and irrigation; and the tillage of soils.

Texts: King, *The Soil*. Chicago: The Macmillan Co. \$1.35.

Vivian, *First Principles of Soil Fertility*. New York: Orange Judd Co. \$1.

EA 4. CEREAL CROP. 16 assignments. The words "cereal crops" are applied to those plants belonging to the grass family which are cultivated mainly for their edible grain. The lessons on this subject include corn, wheat, oats, barley, rye, grain sorghums, and a few other plants of lesser importance. The history and distribution, structure and composition, culture, insect pests, and diseases. Harvesting and storing of products, and other essential features are treated with a view to local applications and recent developments.

Text: Carleton, *Cereals in America*. Chicago: The Macmillan Co. \$1.75.

Free Bulletins and Circulars Furnished.

EA 5. FORAGE CROPS. 16 assignments. Forage crops, such as alfalfa, sweet sorghums, millets, etc., are those produced for the value of the entire plant as a food for animals. They include a far greater variety of plants than does the group of cereal crops. The studies outlined give the farmer the information he needs for the culture of the forage plants adapted to his locality.

Text: Piper, *Forage Plants and Their Culture*. Chicago: The Macmillan Co. \$1.75.

EA 6. GARDENING. 16 assignments. These lessons set forth the underlying principles of vegetable production in the light of the most recent knowledge. The preparation of the soil, the cultural methods required for the different garden crops, the art of storing and preparation

for sale, the marketing of garden products with the economic principles involved, are explained in simple language, but with scientific accuracy.

Text: Lloyd, *Productive Vegetable Growing*. Philadelphia: J. B. Lippincott Co. \$1.75.

EA 8. FEEDS AND FEEDING. 18 assignments. This course is designed to assist the farmer or prospective farmer in the more economic feeding of livestock. It includes a study of the digestive system and of the requirements for maintenance, growth, and fattening. The composition and uses of feeds is studied and much practice is given in the computation of rations for various classes of farm animals.

Text: Henry & Morrison, *Feeds and Feeding*. Madison, Wis.: The Henry Morrison Co. \$2.50.

EA 10. TYPES AND CLASSES OF LIVESTOCK. 16 assignments. This course consists of a study of the market and breeding types of beef cattle, horses, sheep, and swine, including the history and development of the important breeds and their present characteristics and distribution.

Text: Vaughan, *Types and Market Classes of Livestock*. Columbus, Ohio: R. G. Adams & Co. \$2.

Plumb, *Types and Breeds of Farm Animals*, Chicago: Ginn & Co. \$2.

EA 11. FARM DAIRYING. 15 assignments. The increasing importance of scientific, economic, and sanitary production of dairy materials makes this subject desirable to all persons concerned with the production, care, or use of dairy goods. The lessons are designed primarily to improve farm dairying. They deal with the selection of breeds and individuals, herd improvement, care of dairy stock, feeding, milking, care of milk and utensils, sanitation of herd, stables, milk and other products. The assignments based on the text will be supplemented by reference readings.

Text: Eckles, *Dairy Cattle and Milk Production*, Chicago: The Macmillan Co. \$1.60.

EA 12. POULTRY PRODUCTION. 16 assignments. A comprehensive study of the problems of poultry production and management is made under this subject. Incubating and brooding, feeding and housing, care of the flock to promote health and vigor, caponizing, care and marketing of eggs, characteristics of the various breeds and their utility, general marketing problems, and many other details of poultry husbandry are discussed fully in these assignments. The work is thoroughly up to date, and is recommended to all producers of poultry.

Text: Lippincott, *Poultry Production*. Philadelphia, Pa.: Lea & Febiger Co. \$2.

EA 13. INSECTS INJURIOUS TO FARM CROPS. 16 assignments. This subject includes a study of such facts of anatomy and physiology as are necessary to the understanding of habits, life history, and methods of controlling each of the more important species of injurious insects, such as Hessian fly, chinch bug, green bug, corn-ear worm, white grubs, corn-root lice, grain moths, and weevils.

Text: Bulletins furnished with course.

EA 14. INSECTS INJURIOUS TO ORCHARD CROPS. 16 assignments. The large number of insects affecting the orchard crops of the state furnish the subject matter for this course. As in the preceding course, a careful study is made of facts of anatomy, life history, season, and method of control. Among those studied are the codling moth, borers, San Jose scale, plum curculio, cankerworm, tent caterpillar, and plant lice.

Text: Bulletins furnished with course.

EA 15. INSECTS INJURIOUS TO GARDEN CROPS. 16 assignments. The insect pests which annoy the gardener are studied from the practical

standpoint of control. The several garden crops are taken up separately, with discussions of their particular enemies. Preventive measures and the preparation and use of insecticides are emphasized.

Text: Chittenden, *Insects Injurious to Vegetables*. New York: Orange Judd Co. \$1.50.

EA 16. GREENHOUSE MANAGEMENT. 16 assignments. This subject treats of the construction and management of greenhouses, modern methods of heating and ventilating, soil preparation, fertilizers, control of fungous and insect enemies; and other problems involved in forcing flowers and vegetables. The lessons are presented to meet the needs of the practical horticulturist.

Texts: Taft, *Greenhouse Construction*. New York: Orange Judd Co. \$1.60.

Taft, *Greenhouse Management*. New York: Orange Judd Co. \$1.60.

EA 17. FLORICULTURE. 15 assignments. A familiarity with flowers, vines, shrubs, and other ornamental plants is a source of pleasure and profit to all. The object of these lessons is to give up-to-date information that will enable the student to accomplish the best results in producing plants for beautifying the home and home grounds.

Text: Bennett, *The Flower Garden*. New York: Doubleday, Page & Co. \$1.25.

EA 18. LANDSCAPE GARDENING. 15 assignments. The subject of landscape gardening is treated in a practical way that should make it of great value to the home owner who desires to improve the appearance of his property. It should also appeal to park officers and to those who desire to prepare for such work. The selection of site, location of buildings, roads and walks are studied in relation to the principles of landscape art. The more complicated problems of terraces, bridges, water surfaces, parks, and parkways are studied in greater detail. A study of specifications and estimates is also included, and the opportunity offered to become acquainted with the trees, shrubs, and flowers used in landscape plantings.

Text: Waugh, *Landscape Gardening*. New York: Orange Judd Co. 75c.

EA 19. FARM FORESTRY. 15 assignments. These lessons are designed to give the student a comprehensive knowledge of forest conditions, including the requirements of trees upon soil and climate, also upon shade and direct light; the keeping up of the forest by natural and artificial methods; the care and protection of the forests, considering especially the farm woodlot in Kansas. In this subject the kind of trees to plant and how to plant and care for the woodlot will be given special attention. The course will be supplemented by bulletins bearing on the special problems of this state.

Text: Roth, *A First Book of Forestry*. Chicago: Ginn & Co. 75c.

EA 21. DAIRY MANUFACTURING. 15 assignments. This work deals with the manufacturing side of dairying. It aims to assist the man engaged in commercial dairying who can not leave his business, or to assist one in beginning such a course. It deals primarily with commercial butter, cheese, and ice-cream making, and includes the testing of dairy products; cream ripening; pasteurizing; starter making; churning; salting; working, packing and marketing dairy butter; creamery accounting; creamery management; creamery buildings and equipment; mechanical refrigeration and the details of each step in cheddar-cheese and ice-cream making. The assignments based on the text will be supplemented by the use of selected literature, state and United States bulletins.

Text: Michels, *Creamery Butter Making*. Milwaukee, Wis.: John Michels. \$1.50.

EA 24. HORSE PRODUCTION. 15 assignments. This course consists of a study of factors which affect the work of the horse, comparison of rations for horses and methods of producing and caring for horses. The section of the text on horses will be used as a basis for the course and will be supplemented by bulletins and information sheets which will accompany the lessons.

Text: Henry & Morrison, Feeds and Feeding. Madison, Wis.: The Henry-Morrison Co. \$2.50.

EA 26. BEEF PRODUCTION. 15 assignments. This course is devoted to a study of the most successful methods of producing beef cattle for market. It includes comparisons of rations, methods of management, and a consideration of other questions affecting the economical production of beef cattle. The section of the text which deals with beef cattle is used, together with bulletins and information sheets which will accompany the assignments.

Text: Henry & Morrison, Feeds and Feeding. Madison, Wis.: The Henry-Morrison Co. \$2.50.

EA 27. HOG RAISING. 15 assignments. This course consists of a study of the most successful methods of producing hogs. It includes comparisons of rations, methods of management, and considers other questions that affect the economical production of hogs. The section of the text on hogs is used as the basis for this course, being supplemented with bulletins and information sheets which accompany the assignments.

Text: Henry & Morrison, Feeds and Feeding. Madison, Wis.: The Henry-Morrison Co. \$2.50.

EA 28. SHEEP RAISING. 15 assignments. This course consists of a study of the most successful and economical methods of producing and finishing sheep, including comparisons of feeds and discussions of methods of management. The section of the text on sheep will be used as a basis for this course and will be supplemented by bulletins and information sheets which will accompany the lessons.

Text: Henry & Morrison, Fields and Fielding. Madison, Wis.: The Henry-Morrison Co. \$2.50.

EA 30. BEEKEEPING. 15 assignments. This course consists of a study of the methods and practices of bee culture.

Text: A. I. and E. R. Root, The A B C and X Y Z of Bee Culture. Macdina, Ohio: A. I. Root Co. \$2.50.

EA 31. FARM MANAGEMENT. 18 assignments. In this course farming is studied as a business, the factors affecting its success being considered with a view toward more efficient organization. Consideration is also given to methods of keeping accounts.

Text: Warren, Farm Management. Chicago: The Macmillan Co. \$1.75.

Industrial Courses

CARPENTRY AND BUILDING

Required Subjects:

1. EI 1. Shop Mathematics.
2. EI 2. Mechanical Drawing, Applied.
3. EI 3. Architectural Drawing.
4. EI 4. Constructive Carpentry and Inside Finishing.
5. EI 5. Heating and Ventilating.

(Select three additional Subjects from list of electives.)

FARM ENGINEERING

Required Subjects:

1. EI 6. Farm Drainage.
2. EI 7. Farm Buildings.
3. EI 8. Concrete Construction.
4. EI 9. Farm Blacksmithing.
5. EI 10. Farm Machinery.

(Select three additional Subjects from list of electives.)

STATIONARY ENGINEER

Required Subjects:

1. EI 1. Shop Mathematics.
2. EI 2. Mechanical Drawing, Applied.
3. EI 11. Steam Boilers and Engines.
4. EI 12. Gasoline Engines.
5. EI 13. Blacksmithing.

(Select three additional Subjects from list of electives.)

HIGHWAY IMPROVEMENT

1. EI 15. Highway Construction.
2. EI 8. Concrete Construction.
3. EI 19. Bridge and Culvert Construction.
4. EI 16. Roads and Pavements.
5. EI 28. Strength of Materials.

(Select three additional Subjects from list of electives.)

HIGHWAY IMPROVEMENT II

Required Subjects:

1. EI 14. Plane Surveying.
2. EI 16. Roads and Pavements.
3. EI 28. Strength of Materials.
4. EI 2. Mechanical Drawing, Applied.
5. EI 30. Structural Engineering.

(Select three additional Subjects from list of electives.)

MACHINE SHOP AND GENERAL REPAIRING

Required Subjects:

1. EI 1. Shop Mathematics.
2. EI 2. Mechanical Drawing, Applied.
3. EI 17. Automobiles.
4. EI 13. Blacksmithing.
5. EI 18. Machine Shop Work.

(Select three additional subjects from list of electives.)

List of Elective Subjects Applying to the Industrial Courses

- EI 3. Architectural Drawing.
- EI 17. Automobiles.
- EI 13. Blacksmithing.
- EI 19. Bridge and Culvert Construction.
- EI 4. Constructive Carpentry and Inside Finishing.
- EI 8. Concrete Construction.
- EI 20. Elementary Woodworking.
- EI 9. Farm Blacksmithing.
- EI 7. Farm Buildings.
- EI 6. Farm Drainage.
- EI 10. Farm Machinery.
- EI 21. Farm Woodworking.
- EI 22. Foundry Practice.
- EI 12. Gasoline Engines.
- EI 23. Gasoline and Oil Traction Engines.
- EI 15. Highway Construction.
- EI 5. Heating and Ventilating.
- EI 18. Machine Shop Work.
- EI 2. Mechanical Drawing, Applied.
- EI 24. Pattern Making.
- EI 14. Plane Surveying.
- EI 25. Plumbing.
- EI 26. Practical Electricity.
- EI 16. Roads and Pavements.
- EI 27. Sheet Metal Drafting.
- EI 1. Shop Mathematics.
- EI 28. Strength of Materials.
- EI 11. Steam Boilers and Engines.
- EI 29. Steam Traction Engines.
- EI 30. Structural Engineering.

By special arrangement with this department, students may choose from other lists of electives set forth in this pamphlet, or from among the credit courses.

Detailed Information Regarding Each of the Subjects in the Industrial Courses

EI 1. SHOP MATHEMATICS. 18 assignments. The object of this series of lessons is to teach the fundamental principles of mathematics to shop men and to those desiring a thorough training in useful mathematical operations. The problems are of a practical nature and are such as will develop an interest in the subject. The work is taken up under the following heads: Common fractions, decimal fractions, money and wages, percentage, circumference of circles, cutting and grinding speeds, ratio, proportion, speeds and diameters of pulleys, gear ratios, gear trains, screw cutting, area of circles and rectangles, volumes of solids, squares and square root and cubes and cube root. In addition to the above, lessons are given for practice in calculation, as well as to impart a knowledge of the principles of machines, covering the subjects of the lever, mechanical advantages, types of blocks and differential pulleys, the wedge and jack screw, power and work, horsepower of engines, specific gravity, temperatures, and expansion and contraction. In connection

with this study the construction, operation and use of the slide rule is fully explained and its value emphasized in computing and checking shop problems.

Text: Norris & Smith, *Shop Mathematics*, Part I. New York: McGraw-Hill Book Co. \$1.50.

EI 2. MECHANICAL DRAWING, APPLIED. 18 assignments. A progressive series of lessons for beginners, in which instruction is given in connection with special concrete exercises. This study will appeal to those who desire a practical training in mechanical drawing, and especially to those engaged in mechanical work, who have not had an opportunity to secure a training in this subject. The work includes the use of instruments, line notation, principles of working drawing, dimensioning, scale drawing, section drawing, tracings and blueprinting, orthographic projections, intersections, development of surfaces, sketching and making detail and assembly drawings of machine parts.

Text: Mathewson, *Applied Mechanical Drawing*. Springfield, Mass.: The Taylor-Holden Co. \$1.

EI 3. ARCHITECTURAL DRAWING. 18 assignments. A beginning course arranged for those desiring a good working knowledge of the subject of architectural drawing, enabling them to work out plans for buildings and building construction. The course includes instructions in projection drawing, object drawing, perspective drawing, and practical working drawings, consisting of floor plans, elevations, sectional views and details of foundations, floors, partitions, doors, windows, roofs, stairways, and fireplaces of frame, brick, and stone buildings. This course will appeal especially to carpenters, contractors, lumber dealers, mill men, and brick and stone masons.

Text: Edminster, *Architectural Drawing*. Brooklyn, N. Y.: Pratt Institute. \$2.

EI 4. CONSTRUCTIVE CARPENTRY AND INSIDE FINISHING. 18 assignments. A carefully arranged study for those desiring to enter or become more proficient in carpentry and building. An opportunity is given to acquire a large amount of practical knowledge regarding fundamental principles of the work. The course includes a study of foundations, forms of construction, carpenter's geometry, the steel square, roof construction, outside finishing, stair building, inside finishing, estimating, and other important subjects, together with a large number of practical problems pertaining to the trade.

Text: King, *Constructive Carpentry*. Chicago: American Book Co. 70c.

King, *Inside Finishing*. Chicago: American Book Co. 80c.

EI 5. HEATING AND VENTILATING. The subject of heating and ventilating is one that has been greatly neglected. On account of the lack of information and a misunderstanding of the principles involved, many defective installations have been made. Men who can properly design and install apparatus of this kind are greatly appreciated. The object of this study is to assist those interested in becoming more proficient in laying out plans and installing heating and ventilating equipment. The various methods employed, equipment required, and the arrangements of parts of greatest efficiency for both heating and ventilating are carefully considered. Some of the subjects treated are the following: Composition of air, amount required per person, heat losses, furnace heating, hot-water heating, steam heating, indirect radiation, direct-indirect system, air-washing, humidity systems, etc.

Text: Hoffman, *Handbook for Heating and Ventilating Engineers*. New York: McGraw-Hill Book Co. \$3.50.

EI 6. FARM DRAINAGE. 15 assignments. This subject treats of the benefits derived from tile and open-ditch drainage; when the tile should be used and when the open ditches; the systems that are best adapted to the different conditions; method of making the survey; how to determine the size of the tile required; the depth and distance apart the tile should be placed; kind of tile to use; where it can be obtained and its probable cost; digging the ditches by hand and by machine; laying the tile; how the back filling should be done; making the outlets; and the cost of the tiling.

Free Bulletins.

EI 7. FARM BUILDINGS. 16 assignments. This study furnishes instruction in planning and arranging all kinds of outbuildings for the farm, such as general barns, horse barns and stables, cattle barns, dairy barns, swine barns, sheep barns and sheds, poultry houses, silos, cribs, granaries, workshops, feed racks and troughs, farm fences, farm gates, dipping tanks, and also some of the many farm conveniences. This study is of great practical value to those interested in any line of farming.

Text: Saunders, *Farm Buildings*. Chicago: Saunders Publishing Co. \$2.

EI 8. CONCRETE CONSTRUCTION. 12 assignments. The lessons arranged in this subject are prepared to give assistance to those interested in the many uses of concrete. The study deals with the selection of materials and tools, proper proportions, computation of quantities, construction of forms, use of reinforcing material, methods of mixing and placing concrete in constructing sidewalks, feeding floors, foundations, driveways, fence posts, tanks, cisterns, etc.; also some instruction will be given on the construction of silos, culverts, and small farm buildings.

Text: Free Bulletins.

EI 9. FARM BLACKSMITHING. 16 assignments. One of the most essential needs on the farm is the repair shop. This need not be expensively equipped, but should include some of the most important blacksmithing tools. Where a workshop is not available, a portable forge with a few forging tools can be used in doing much of the farm blacksmithing. This work is planned for beginners. It includes directions for selecting the equipment, proper methods of managing the fire, and careful directions for forging articles of use, such as gate hooks, staples, bolts, rings, links, chain hooks; also the method of making welds, and forging and tempering steel chisels, punches, wrenches, and other tools.

Text: Bacon, *Forge Practice*. New York: Wiley and Sons. \$1.50.

EI 10. FARM MACHINERY. 16 assignments. This subject treats of important mechanical principles applied to machines and to machinery in general use on the farms of Kansas, such as tillage, seeding, harvesting, threshing, haying, grinding and pumping machinery, manure spreaders, feed mills, wagons, buggies, and sleds. Too few farmers realize the part farm tools take in the development of the farm and in farm operations. The object of this course is to aid the student better to understand the selection, methods of operating, and the adjustment of common farm tools.

Text: Davidson and Chase, *Farm Machinery and Farm Motors*. New York: Orange Judd Co. \$2.

EI 11. STEAM BOILERS AND ENGINES. 18 assignments. The object of this study is to assist those interested in acquiring a practical knowledge in regard to the installation, care, and management of steam boilers, steam engines, and other equipment essential to modern steam power plants. This study is taken up in such a manner as to be of interest not only to beginners, but also to the more experienced engineers, especially

those preparing to pass examinations for a stationary engineer's license. Some of the subjects treated are fuels and combustion, boilers, smoke prevention, stokers, pumps, superheaters, mechanical draft, corrosion and scale, types and classification of steam engines and turbines, valve mechanism, governors, condensers, feed-water purifiers, instruments, indicator cards, boiler, and engine trials, etc.

Text: Hiscox, *Modern Steam Engineering*. New York: Norman W. Henley Publishing Co. \$2.40.

EI 12. GASOLINE ENGINES. 16 assignments. A study arranged for those desiring to learn how to select and operate a stationary or portable gasoline or kerosene engine and how to apply it to all kinds of work on the farm. The course will include a study of the elementary principles; two- and four-stroke cycle; combustion, expansion and exhaust; valves and valve gear; moisture; methods of governing; care and management; pressure; temperature; horsepower and efficiency.

Texts: Poole, *The Gas Engine*. New York: McGraw-Hill Book Co. \$1.

Brooks, *Practical Gas and Oil Engine Handbook*. Chicago: F. J. Drake Publishing Co. \$1.

EI 13. BLACKSMITHING. 18 assignments. A systematically arranged series of lessons and exercises in blacksmithing, of interest not only to beginners, but also to the more experienced workmen. A careful study is made of equipments; arrangements of modern shops; composition and manufacture of iron and steel; methods of forging simple and complicated shapes, both by hand and by power; proper method of hardening, tempering, annealing, welding; and other important phases of the subject. In addition to textbook work, practical exercises are forged in iron and steel from blueprints and direction sheets furnished.

Text: Bacon, *Forge Practice*. New York: John Wiley and Sons. \$1.50.

EI 14. PLANE SURVEYING. 18 assignments. A study of the subject of plane surveying, consisting of fundamental principles, general methods, field notes, use and care of instruments, chaining, transit surveying, calculations of bearings, earth work, computations, drafting-room methods, plotting maps, etc. The study includes the working out of a number of actual problems by the student with instruments. It is especially designed for county engineers, county surveyors, and others desiring a practical knowledge of this subject.

Text: Pence & Ketchum, *Surveying Manual*. New York: McGraw-Hill Book Co. \$2.

EI 15. HIGHWAY CONSTRUCTION. 16 assignments. The subject of highway engineering will include the location, construction, drainage, and maintenance of earth roads, and the construction and maintenance of the various types of improved road covering, such as rock, gravel, sand-clay, petrolithic, etc. The use of various kinds of road machinery will also be considered, and the cost of operation under various conditions. The practical aspect of the construction and maintenance of bridges and culverts will also be taken up, particular emphasis being placed on the modern types of permanent structures, such as those of masonry and concrete. The course will be based on a specially prepared bulletin and a selected list of the publications of the United States Office of Public Roads.

Text: Free Bulletins.

EI 16. ROADS AND PAVEMENTS. 16 assignments. A study of road and pavement design and construction. The work includes a careful consideration of road economics and management, drainage of roads and streets, location of country roads, broken stone and macadam roads, foun-

dations and materials for pavements, city streets, etc. Particular emphasis is given in this study to country road improvements.

Text: Spalding, Roads and Pavements. New York: John Wiley and Sons. \$2.

EI 17. AUTOMOBILES. 18 assignments. A very practical and interesting study arranged for those desiring to learn how to select, operate, care for and repair automobiles. The different types of cars, their adaptation and the principles of their construction are carefully considered. A study is made of each important part of the car, particularly those parts which require testing and adjustment. Special attention is given to the newer devices, such as self-starters and electric lighting systems. This study is one that will be of special interest and help to car owners, chauffeurs, repair men, garage owners, demonstrators, etc.

Text: Hobbs and Elliott, The Gasoline Automobile. New York: McGraw-Hill Book Co. \$2.

EI 18. MACHINE SHOP WORK. 18 assignments. A study intended for those who wish to become intelligent and highly skilled machinists. Fundamental operations are carefully explained and instruction is given in theory and scientific principles underlying the trade, enabling one to become intelligent and resourceful and ready in adapting himself to new conditions and requirements.

Text: Smith, Principles of Machine Shop Work. Boston: Industrial Education Book Co. \$3.

EI 19. BRIDGE AND CULVERT CONSTRUCTION. 16 assignments. A course of study especially arranged to meet the needs of road supervisors and contractors interested in the construction of small bridges and culverts. This includes the study of structures of wood, steel, and concrete and their use in construction. Instruction is given in preparing field notes for design, selection of materials, computation of quantities, construction of forms and false work, and steps in construction.

Text: Data For Use In Designing Culverts and Short Span Bridges, Public Roads Bulletin 45. Washington, D. C.: Supt. of Documents. 15 cents.

EI 20. ELEMENTARY WOODWORKING. 16 assignments. Most boys enjoy using tools. This is especially true when they are permitted to make articles which they can use in connection with their play or home work. Left to themselves without assistance, however, their work is liable to be crude and rough; but with definite plans and careful directions very satisfactory results are secured. In order to aid and encourage boys in their constructive work this study is offered. Some of the topics considered are the following: Selection of tool equipment, sharpening both edge and tooth tools, tool processes, making working drawing, squaring up stock in constructing completed articles, selection of materials used, wood finishing, etc. The textbook selected furnishes careful drawings and directions for making a large number of practical articles. The articles suggested are arranged in groups so that by selecting one or more from each group a progressive series of tool processes can be secured. This study will appeal to all boys interested in constructive work who are provided with a few of the more important tools, material for workbench, and a place reserved somewhere at their home for them to work.

Text: Burton, Shop Projects Based on Community Problems. Muncie, Ind.: Vocational Supply Co. 90c.

EI 21. FARM WOODWORKING. 16 assignments. In addition to the equipment of the farm shop for blacksmithing, some of the essential tools for woodworking should be included. This study is planned to give training and assistance to farmers and farmers' boys in doing much of

their repair work and in constructing many articles of use for the home and the farm. The study includes directions for selecting tools and how to keep them in order, directions for laying out work, sawing, gauging, planing, modeling, mitering, mortising, cutting rafters, and elementary framing, together with directions for building a workshop and other farm buildings.

Text: Brace and Mayne, *Farm Shop Work*. Chicago: American Book Co. \$1.

EI 22. **FOUNDRY PRACTICE.** 18 assignments. The object of this study is to supplement work in the foundry and to furnish a comprehensive knowledge in a subject which has been greatly neglected in recent years, and in which there is great opportunity for advancement, through the use of scientific principles and economic methods. The work includes a study of materials, tools, principles of molding, core work, sweep work, and cupola practice.

Text: Richards, *Elementary Foundry Practice*. New York: The Macmillan Co. \$1.25.

EI 23. **GASOLINE AND OIL TRACTION ENGINES.** 16 assignments. A practical study for those interested in the application of internal-combustion engines to the various tasks on the farm. The course will include a study of the special advantages of this style of engines, the construction and workings of the different parts, including a careful study of the carburetor, valves, forms of ignition, batteries, methods of starting, governing, cooling, testing; also the troubles that are likely to occur, and how they may be found and remedied.

Text: Page, *The Modern Gas Tractor*. New York: Norman W. Henley Publishing Co. \$2. (If ordered direct from publishers, mention Home-study Service Department, Kansas State Agricultural College.)

EI 24. **PATTERN MAKING.** 18 assignments. A study of the subject of pattern making, arranged for those desiring to specialize in this line of woodworking. The work is planned to familiarize students with typical processes used in modern shops. A study is made of the different kinds of patterns and the proper method of their construction. The aim will be to furnish in a practical manner, and in as short a time as possible, the working knowledge which was formerly furnished by the old-time apprenticeship system.

Text: Purfield, *Wood Pattern Making*. Ypsilanti, Mich.: Horace T. Purfield, Publisher. \$1.25.

EI 25. **PLUMBING.** 18 assignments. Sanitation in modern buildings is now receiving far more consideration than at any other time in the history of architecture. New methods are being employed and the systems of installation have so changed the character of plumbing that new standards of comparison are required to determine the quality of work. The object of this study is to enable those interested in this important work to become familiar with present-day methods in designing and installing plumbing systems. Accurate rules and formulas are employed in place of empirical methods formerly used, and to this extent plumbing systems can be designed to be more definite and reliable. A careful study of these lessons will be of great interest and value not only to the young men beginning a study of this subject, but also to more experienced workmen.

Text: Cosgrove, *Principles and Practice of Plumbing*. Pittsburg, Pa.: Standard Sanitary Manufacturing Co. \$4.

EI 26. **PRACTICAL ELECTRICITY.** 18 assignments. A carefully arranged study for men engaged in electrical work desiring to become more familiar with the subject and more proficient in handling and

operating electrical machinery and equipment. This study is especially adapted to men engaged in such employments as power-plant work, handling electrical machinery, wiring buildings, setting up and operating dynamos, motors, etc. These lessons are also adapted to the needs of those desiring to begin a study of practical electricity. The following are some of the headings which will receive careful consideration: Principles of electricity; measuring and testing instruments; installation and management of direct and alternating-current dynamos and motors; outside distribution; interior wiring; wiring costs; single, two, three and special transformers, parallel operation; principles of interior and exterior illumination; etc.

Text: Croft, *American Electricians' Handbook*. New York: McGraw-Hill Book Co. \$3.

EI 27. SHEET METAL DRAFTING. 18 assignments. A study designed to meet the needs of workmen engaged in the sheet-metal working trades. The work includes a study of the use and care of drawing instruments, the construction of the more important geometrical problems, numerous problems in projections, working drawings, and intersections of solids, after which a study is made of surface development and the drawing of simple and intersected surfaces, with pattern cutting, mensuration and estimating.

Text: Mathewson, *Applied Mechanical Drawing*. Springfield, Mass.: Taylor-Holden Co. \$1.

EI 28. STRENGTH OF MATERIALS. 16 assignments. A study designed to teach the fundamental principles of the strength of materials to practical men, enabling them to obtain a knowledge of a subject of much value in contracting and building, and in structural engineering work. The subjects treated are those usually included in a course of this character.

Text: Merriman, *Strength of Materials*. New York: Wiley and Sons. \$1.

EI 29. STEAM TRACTION ENGINES. 12 assignments. A study of the construction, care and management of steam traction engines. Each part of the boiler and engine is carefully considered, and the work which it has to perform is fully explained. Directions are given for setting up and operating, also a study is made of such subjects as scale in the boiler, economical firing, sparks, pressure, low water, lining the engine, setting the valves, and the working of injector and pumps.

Text: Stephenson, *Farm Engines and How to Run Them*. Chicago: F. J. Drake Publishing Co. \$1.

EI 30. STRUCTURAL ENGINEERING I. 18 assignments. This study deals with the fundamentals of structural engineering, loads on structures, principles of statics, reactions, shear and moments, influence lines and algebraic treatment of concentrated loads, stresses in truss members, design of structural members, use of steel handbook, and shop drawing.

Text: Hool, *Elements of Structure*. New York: McGraw-Hill Book Co. \$2.50.

Home Economics Courses

Required Subjects:

1. EH 1. Household Management.
2. EH 2. Foods and Cookery I.
3. EH 3. Foods and Cookery II.
4. EH 9. Home Nursing.
5. EH 14. Child Life and Care of Children.

(Select three additional subjects from list of electives.)

DOMESTIC ART.

Required Subjects:

1. EH 1. Household Management.
2. EH 5. Sewing I.
3. EH 6. Textiles.
4. EH 11. Home Decoration.
5. EH 16. Costume Design.

(Select three additional subjects from list of electives.)

GENERAL COURSE IN HOME ECONOMICS

Required Subjects:

1. EH 1. Household Management.
2. EH 2. Foods and Cookery I.
3. EH 9. Home Nursing.
4. EH 5. Sewing I.
5. EH 11. Home Decoration.

(Select three additional subjects from list of electives.)

List of Elective Subjects Applying to the Home Economics Courses

- EH 2. Foods and Cookery I.
- EH 3. Foods and Cookery II.
- EH 4. Foods and Cookery III.
- EH 5. Sewing I.
- EH 6. Textiles.
- EH 7. Elementary Needlework.
- EH 9. Home Nursing.
- EH 10. Home Sanitation.
- EH 11. Home Decoration.
- EH 12. Personal Hygiene.
- EH 13. Household Bacteriology.
- EH 14. Child Life and Care of Children.
- EH 15. Household Chemistry.
- EH 16. Costume Design.
- EH 17. Laundering.

Detailed Information Regarding Each of the Subjects in The Home Economics Courses

EH 1. HOUSEHOLD MANAGEMENT. 18 assignments. The course offers a comprehensive study of the mechanics of the household, the budget, the business of purchasing, the basis of efficiency, the proper records of the household, practical accounting, order and system in the household, and many other equally important subjects. The business side of house-keeping is not given the preponderance over the esthetic problem of home making, but the latter phase is considered in a wholesome way as well. It is a very general survey of the business of keeping a house and making a home.

Text: Christine Frederick, *The New Housekeeping*. New York: Doubleday, Page & Co. \$1.35.

EH 2. FOODS AND COOKERY I. 20 assignments. This course comprises a study of the food principles, their preparation and use, together with instruction upon food adjuncts and good combinations. Every class of cookery is covered in a very complete and satisfactory way, while the preservation of food, planning of meals, selection of diets, table service, and the cost of food are included in the course.

Text: Greer, *Textbook of Cooking*. Chicago: Allyn and Bacon. \$1.25.

EH 3. FOODS AND COOKERY II. 16 assignments. This course is designed to broaden one's knowledge of the food subject, and covers the source and constituents of foods, telling where, how, and by whom each food is produced. The process of manufacture, preparation for the market, adulteration and defects, and selection for use are some of the topics considered for every common food product.

Text: Bailey, *Source, Chemistry and use of Food Products*. Philadelphia: P. B. Blakiston's Son & Co. \$1.60.

EH 4. FOODS AND COOKERY III. 18 assignments. This course covers the principles of human nutrition, giving instruction in the chemical elements involved in human nutrition, the compounds of human nutrition, digestion and distribution of digested foods, the functions of food compounds and the laws of nutrition. Part II deals with the practical dietetics, in which the subject of balancing rations is treated with reference to regulating the diet for varying conditions of life from childhood to old age.

Text: Jordan, *The Principles of Human Nutrition*. Chicago: The Macmillan Co. \$1.75.

EH 5. SEWING I (Elementary Garment Making). 18 assignments. Every woman needs at least an elementary knowledge of sewing; for even though it is possible to buy every article of clothing ready made, a knowledge of the subject is necessary in order to select wisely, to make the selections look well, and to make them wear as long as possible. The making of undergarments, choice of patterns, alteration of patterns, selection of materials and trimmings, use of sewing machine, the drafting of simple patterns, cutting and making garments, embroidery, and the hygiene of clothing, will each be studied in a comprehensive way.

Text: L. I. Baldt, *Clothing for Women*. Philadelphia: J. B. Lippincott Pub. Co. \$2.

EH 6. TEXTILES. 18 assignments. This course comprises a study of the various textile fibers, carrying each through a brief history of its

use—the cultivation at the present period—the process of manufacture, the preparation for market, and the economic phases concerning each one. Adulterations and common tests, as well as instruction upon all the common fabrics, are given. Weaving, dyeing, bleaching, finishing are some of the interesting processes treated. Yarns, laces, artificial fibers, and substitutes for fibers are given attention also. This course will broaden one's knowledge of the subject of textiles, making the housewife much better able to select and purchase her supplies.

Text: Woolman & McGowan, Textiles. Chicago: The Macmillan Co. \$2.

EH 7. ELEMENTARY NEEDLEWORK. 18 assignments. The making of a number of small, useful articles involving the simple stitches and processes of hand sewing with a view to the development of the manual skill and practical knowledge.

Text: Burton, School Sewing Based on Home Problems. Muncie, Ind.: Vocational Supply Co. 90c.

EH 9. HOME NURSING. 18 assignments. A carefully arranged course which covers the entire field of private or practical nursing. Instruction is given also with a view to training the student how to meet common emergencies in the home and to make proper preparation in extreme cases for the physician or surgeon. A study is made of the nature of the different diseases and their possible complications and practical care. Special attention is given also to the following important subjects: the nurse, the patient, feeding the sick, the sick room, bandaging, accidents, emergencies, home treatment, contagious and infectious diseases, nursing special cases, maternity nursing, care of infants and children.

Text: Charlotte Aikens, Home Nurses' Handbook of Practical Nursing. Philadelphia. The W. B. Sanders Co. \$1.50.

EH 11. HOME DECORATION. 18 assignments. Home may be made much more inviting and attractive by a study of this course, for it is designed to give instruction upon the various elements that combine to make a harmonious dwelling. In it are considered the outward appearance, the plan of the house, the treatment of the walls and floors, the various rooms, rugs and furnishings, pictures and ornaments. A very delightful study, which will be sure to deepen the interest in things that center in and about the home.

Text: Materials furnished with the course.

EH 12. PERSONAL HYGIENE. 18 assignments. This course comprises the application of biology and physiology to the health problems. It is descriptive of the value of health. It teaches personal responsibility, and the care of the body as a human machine. Some of the lessons to be covered are the following: the care of the teeth, the hygiene of eating and drinking, bathing, the care of the hair, and the complexion, physical exercises, and the ethics of health.

Text: Anna M. Galbraith, Personal Hygiene and Physical Training for Women. Philadelphia: W. B. Sanders Co. \$2.25.

EH 13. HOUSEHOLD BACTERIOLOGY. 18 assignments. Now that so many of the common diseases have been traced to germ action it is imperative that the progressive housewife be informed upon the essentials of the life history of the common forms. Moreover, since many common germs are helpful rather than harmful in their activities, it is well to know about these forms. Hence this course gives instruction upon bacteria, yeasts and molds in a manner that is both very interesting and highly instructive. The housewife who takes this course should become a better bread maker, an expert at canning and caring for fruit and vegetables, and be better prepared to preserve and minister to the health of her family.

Text: Conn, Bacteria, Yeasts and Molds. New York: Ginn & Co. \$1.20.

EH 14. CHILD LIFE AND CARE OF CHILDREN. 18 assignments. This is a study of normal children and their habits. It is given in such a way that it will arouse a deeper sympathy and a broader toleration of children. It is designed also to enlarge the understanding and create a keen appreciation of child life. The care and feeding of children occupies a generous portion of the course, covering as it does the feeding of infants, feeding during the transition period, and the feeding of children of school age. Character building, art and literature in child life, studies and accomplishments, financial and religious training, and faults and their remedies are some of the topics studied.

Text: Mary L. Read, *Mothercraft Manual*. Boston: Little, Brown & Co. \$1.50.

EH 15. HOUSEHOLD CHEMISTRY. 16 assignments. The progressive housewife of to-day feels that at least an elementary knowledge of chemistry is necessary in order to comprehend the subject of food and nutrition in its broadest sense, as well as to understand many other subjects and articles connected with everyday life. Hence this course treats of first principles of chemistry in such a way as to furnish this necessary knowledge. Metal tarnishes, iron rust, hard water, soaps, bleaching, blueing and dyeing are some of the practical topics treated.

Text: Snell, *Elementary Household Chemistry*. Chicago: The Macmillan Co. \$1.25.

EH 16. COSTUME DESIGN. 20 assignments. Problems in the effective application of line and color in planning costume for figures of various types.

Text: Estelle Peele Izor, *Costume Design & House Planning*. Chicago: Atkinson, Mentzer & Grover. 90c.

EH 17. LAUNDERING. 20 assignments. Kinds of fabrics and their characteristics; stains and their removal; washing agents, preparation and processes for various classes of clothing; laces and special cleaning; fumigation and disinfection; dry cleaning; domestic and institutional equipment.

Text: L. R. Balderston, *Laundering*. Philadelphia: L. R. Balderston, 1224 Cherry St. \$1.25.

PART III

Credit Courses

(Fee, \$10 for a year's enrollment, not to exceed eight semester credits. For nonresidents of Kansas the fee is \$15 a year.)

This department offers credit work by correspondence in two general lines—for entrance credit (regular accredited high-school subjects), and for college credit. All work is equal in extent and comprehensiveness to the parallel resident courses. In a general way the same prerequisites are necessary for these courses as for high-school and college courses in residence.

Correspondence credit courses have advantages and disadvantages when compared with resident courses. Among the advantages is the fact that they can be taken while at home and in connection with other necessary work that makes impossible attendance at an educational institution. They also have the advantage over class work of requiring the student to work through the material in all its phases and details. This advantage has been well proved by the mastery of the subject matter by those who have completed correspondence courses, by the ease with which they have met their examinations, and by the strength shown as they have continued their work in classes.

In the organization of this department every effort has been made to eliminate the disadvantages often found in correspondence-study work. Many of these disadvantages, such as absence of laboratory facilities, have been practically eliminated by the fact that no courses are offered in which strictly laboratory work is required. A plan is under consideration whereby certain lines of work previously presented only through the laboratory method will be handled as supervised home projects. Thereby much of this work will be rendered very effective, as it will be done under actual field conditions.

The absence of library facilities is reduced to a minimum by arrangements made with the College library whereby students may borrow books for a reasonable length of time. The disadvantage of lack of personal contact with the instructor cannot be entirely overcome and long has been considered a great obstacle in the way of correspondence work. This, no doubt, has been well founded where the regular resident instructors have been relied upon to handle correspondence students as a side line, but the organization of the Department of Home-study Service provides an independent corps of instructors for correspondence-study work. These instructors have been very carefully selected, not only because of their special preparation and experience in the lines which they will teach, but also because of their unusual interest in and fitness for teaching by mail.

The work of the instructors in this department is not merely a matter of correcting papers, but embraces the comprehensive field of surveying

the needs of each student and fitting the instruction to the individual case. Under this sort of guidance the student who is out in the field in close contact with the practical problems of life may do excellent work. The increase in the percent of students who have satisfactorily completed their courses since this plan was adopted justifies the conclusion that many of the disadvantages of the older system of correspondence instruction have been overcome.

These courses should be of particular interest to those who for any reason are temporarily unable to attend high school or college. They also offer opportunity for the ambitious student to use his vacation time to advantage. This department does not close for summer vacation, and therefore provides a year-round school.

The Plan of Credit Courses

Throughout this bulletin the term "course" is used to refer to a single subject consisting of from eight to twenty-four lesson assignments.

The credit courses are divided, for convenience, into two general groups—the high-school group and the college group. Each of these groups is in turn classified into groups of courses in the same general field of work. Wherever conditions will permit, the required courses named in the general College catalogue are offered. In some cases this is hardly possible by reason of the extensive laboratory and field work required. Some of the groups should be particularly valuable to the person engaged in practical work in the field. For example, the agricultural courses are especially valuable to teachers of agriculture; the educational courses should prove particularly attractive to public-school teachers and students preparing to meet the requirements for state certificates.

Examination

At the close of each course, before a report card is issued, a final examination is necessary. This final examination may be taken in the office of the Department of Home-Study Service at the College, or arrangements may be made by the student to take it locally under the city or county superintendent of schools. In the latter case the examination questions and instructions for conducting the examination are mailed from the department to the examiner, and the student's paper is sent in by him. This final examination determines entirely the final grade in the course reported to the Registrar and to the student. The preparation of papers is required throughout the course, and the papers are read, graded and commented upon solely as an aid to the student in mastering the subject matter.

This form of study work gives the student such familiarity with the entire ground covered in any course, and so trains him in expressing his thought in clear-cut, concise statements that the examination presents but little difficulty.

Grades

Whenever a subject is satisfactorily completed and the examination passed, a report card is issued showing the name of the subject and the grade of work. This grade is turned into the registrar's office and becomes a matter of permanent record just as though the work had been taken in residence. The student also is furnished a copy of this report.

Fees

The enrollment fee for credit courses is \$10 a year. This rate applies to all residents of Kansas. (The fee required of nonresidents of the state is \$15 a year.) Those who may be only temporarily employed outside of the state may enroll for the regular \$10 fee, provided they still claim their citizenship in Kansas. Enrollment cannot be transferred from one student to another, neither can any portion of the enrollment fee be refunded.

If a student's work is interrupted by protracted illness or military service, he may, by special arrangements, secure an extension of his enrollment period without payment of further dues. All such cases must be handled individually.

Each student is expected to pay the postage on lessons, manuscripts and communications sent in to the department. This office will furnish postage for the return of all such papers to the student.

This enrollment entitles the student to as much work as can be satisfactorily completed in one year, not to exceed eight semester hours of college work or three semester credits of high-school work, unless the work is of a very high character, in which event special arrangements may be made for a limited amount of additional work.

Textbooks

All credit subjects are based on textbooks; these are furnished by the student. In the paragraph explaining each subject the names of the textbooks, the prices and the names of publishers are given for the convenience of students who desire to order their books directly from the publishing companies. To assist students in getting the proper edition of the various textbooks, and also to insure prompt delivery, which is hardly possible if the books are ordered by the students from a distant company, this department has arranged with the local book stores to carry a supply of all texts, any of which will be mailed to students at exactly the same price as if purchased from the publisher.

How to Enroll

In general, completion of the course of the eighth grade is desirable before undertaking any of the high-school courses, and completion of a four-year high-school course before registering for college work.

Students who are doing work in residence at the Kansas State Agricultural College or at any other educational institution may not be en-

rolled for correspondence-study work without the written permission of the dean or other proper authority.

Some students may be permitted to carry two courses simultaneously, although usually this is inadvisable. When only one course is taken, the effort is concentrated and the work can be completed in a reasonable length of time. Certain courses have prerequisites; where this is the case it will be so stated in the detailed discussion of the course. These requirements must be met before enrolling for a course. When enrolling use the blank found in this pamphlet, and indicate the course desired by name and number. Enclose this blank with the amount of the enrollment fee, which is \$10 for residents of Kansas and \$15 for nonresidents of the state. All checks should be made payable to Director of Home-study Service, Kansas State Agricultural College. If textbooks are to be sent from this department, enclose separate check for the cost of these and state the books that are to be sent. Never include payment for textbooks in the same check with fees or other expenses.

NOTE. Any credit course may be taken as a noncredit or vocational course under the terms indicated for vocational courses.

High-school Courses

(College Entrance Credit Work.)

In offering the following work for high-school credit there is no intention of competing with the high schools of the state. It is not the purpose of those who have planned the work to present a full four-year high-school course. Students who have opportunity to attend local high schools should by all means take advantage of the opportunity, for in such attendance they will be under the personal direction of their instructors and will have the benefit to be derived from association with fellow students, as well as many other advantages which will be helpful to immature students of high-school age.

These courses are offered as an aid to those who may by necessity be temporarily out of high school, who may not find the work which they desire offered locally, or who wish to carry work for high-school credit during vacation periods. It is not to be expected that a student can progress as rapidly by correspondence-study methods as he can by devoting his full time to his work when attending high school. Any student who completes a half year of high-school work in a year by correspondence may feel that he has done exceedingly well.

These high-school courses will be especially advantageous to prospective college students who have entrance deficiencies, and to public-school teachers who may not have had the opportunity to do this type of work. No effort has been spared to make the work as nearly as possible parallel with the courses offered by the accredited high schools of the state. The same textbooks have been used wherever feasible and the credits issued by this department will be recognized by the colleges and State Board of Education.

List of High-school Courses

(See following pages for detailed discussion of each course.)

AGRICULTURE		Units credit.	Assign- ments.
PCA 1.	Elementary Agriculture I	½	20
PCA 2.	Elementary Agriculture II	½	20
DRAWING			
PCD 2.	Geometrical Drawing*	½	20
PCD 3.	Mechanical Drawing I	½	20
PCD 4.	Mechanical Drawing II	½	20
ENGLISH			
PCE 1.	Grammar and Composition	½	20
PCE 2.	Literature	½	20
PCE 3.	Composition	½	20
PCE 4.	Literature	½	20
PCE 5.	Composition	½	20
PCE 6.	Literature	½	20
MATHEMATICS			
PCM 1.	Algebra I	½	20
PCM 2.	Algebra II	½	20
PCM 3.	Algebra III	½	20
PCM 4.	Plane Geometry I	½	20
PCM 5.	Plane Geometry II	½	20
PCM 6.	Solid Geometry	½	20
HISTORY			
PCH 1.	Ancient History I	½	20
PCH 2.	Ancient History II	½	20
PCH 3.	Medieval History*	½	20
PCH 4.	Modern History*	½	20
PCH 5.	American History I	½	20
PCH 6.	American History II	½	20

High-school Courses in Detail

Agriculture

PCA 1. ELEMENTARY AGRICULTURE I. One-half unit credit; 20 assignments. This course is designed to cover in a thorough manner the elementary principles of several phases of agriculture. The subjects treated include improvement of plants and animals, plant growth and nutrition, soils and fertilizers, cereal crops, forage crops, and fiber crops. The outline for the work is made in careful detail, so that all of the essential points are duly emphasized. No laboratory work is required with the course, but suggestions are given for securing and using illustrative material.

Text: Waters, *Essentials of Agriculture*. Chicago: Ginn & Co. \$1.25.

PCA 2. ELEMENTARY AGRICULTURE II. One-half unit credit; 20 assignments. This course is a continuation of Elementary Agriculture I. The subject matter includes the study of roots and tubers, orcharding, forestry, insect pests, diseases of plants, silos and silage, animal feeding, dairying, horse production, beef cattle, swine, sheep, poultry, farm mechanics and the business aspects of farming. The arrangement of the material and the nature of the work is similar to that described for the preceding course.

Text: Waters, *Essentials of Agriculture*. Chicago: Ginn & Co. \$1.25.

* In preparation.

Drawing

PCD 2. GEOMETRICAL DRAWING. One half unit credit; 20 assignments. A first course in the use of instruments. Treats of the construction of perpendiculars, parallels, angles, and polygons, with work in lettering and the making of simple drawings.

Text: International Correspondence School, Geometrical Drawing. Scranton, Pa.: International Correspondence Schools. 40c.

PCD 3. MECHANICAL DRAWING I. One-half unit credit; 20 assignments. An introductory study of mechanical drawing dealing with selection, use, and care of instruments, and including work in lettering, projections, and development of surfaces.

Text: French, Engineering Drawing, New York: McGraw-Hill Book Company. \$1.90.

PCD 4. MECHANICAL DRAWING II. One-half unit credit; 20 assignments. Prerequisite: Mechanical Drawing I. An advance study in mechanical drawing dealing with conventional methods of representation, working drawings, and technical sketching.

Text: French, Engineering Drawing. New York. McGraw-Hill Book Company. \$1.90.

English

These courses follow carefully the State Course of Study for High Schools of Kansas and give three units credit, or full college entrance requirements in English. Each year's work includes two divisions: the first, composition; the second, literature.

FIRST YEAR.

PCE 1. GRAMMAR AND COMPOSITION. One-half unit credit; 20 assignments. In accordance with the State Course of Study, this first half year's work in high-school English consists of a study of grammar, with emphasis upon sentence structure.

Texts: Canby & Opdycke, Elements of Composition. Chicago: The Macmillan Company. \$1.12.

Wooley, Handbook of Composition. Chicago: D. C. Heath & Co. 80c.

PCE 2. LITERATURE. One-half unit credit; 20 assignments. In this course four books, selected from the list of collateral reading as given in the State Course of Study, are read and reviewed and the following classics are given careful study.

Texts: Irving, Sketch Book, Eclectic Series. Chicago: American Book Company. 20c.

Coleridge, The Ancient Mariner, Gateway Series. Chicago: American Book Company. 30c.

Franklin, Autobiography, Eclectic Series. Chicago: American Book Company. 20c.

Shakespeare, As You Like It, Eclectic Series. Chicago: American Book Company. 20c.

SECOND YEAR

PCE 3. COMPOSITION. One-half unit credit; 20 assignments. The first semester's work in grammar and composition is a preparation for this course, which is on composition and rhetoric. Rhetoric has more to do with effective writing and not so much with the mechanical steps of composition. In this course, therefore, the study of effective writing is undertaken.

Text: Canby & Opdycke, Elements of Composition. Chicago: The Macmillan Company. \$1.12.

PCE 4. LITERATURE. One-half unit credit; 20 assignments. The last semester of the second-year high-school English is one of the most interesting courses offered. Four books from a suggested list for collateral reading are read, and written reports based on a carefully planned outline are prepared. The following classics are studied:

Texts: Scott, *Ivanhoe*, Eclectic Series. Chicago: American Book Company. 20c.

Shakespeare, *Merchant of Venice*, Standard English Classics. Chicago: Ginn & Co. 30c.

Eliot, Silas Marner, Eclectic Series. Chicago: American Book Company. 20c.

Shakespeare, *Julius Cæsar*, Standard English Classics. Chicago: Ginn & Co. 30c.

Tennyson, *Idyls of the King*, Eclectic Series. Chicago: American Book Company. 20c.

THIRD YEAR

PCE 5. COMPOSITION. One-half unit credit; 20 assignments. This semester's work is in constructive English. It consists of a careful study of argumentation, drill in selecting and wording propositions, planning and writing briefs, and constructing full arguments on subjects suited to boys and girls of the third-year high-school; description, including such study of this form of composition as will enable the student to observe closely, to select important features, and to describe accurately and vividly what he sees; narration, its principles and essentials; the story—the purpose of the study is to get the student to appreciate a good story. Many short stories are read and their good qualities emphasized.

Text: Canby & Opdyke, *Elements of Composition*. Chicago: The Macmillan Company. \$1.12.

PCE 5. LITERATURE. One-half unit credit; 20 assignments. In accordance with the Course of Study for High Schools of Kansas, the second semester of the third-year high-school English is planned to develop appreciation and love for literature. The work of the term has to do with drama and poetry. The following will be studied:

Texts: Goldsmith, *The Deserted Village*, etc., Macmillan Pocket Classics. Chicago: The Macmillan Company. 28c.

Sheridan, *The Plays*, Macmillan Pocket Classics. Chicago: The Macmillan Company. 28c.

Shakespeare, *Macbeth*, Hudson Edition. Chicago: Ginn & Co. 30c.

English Narrative Poems, Macmillan Pocket Classics. Chicago: The Macmillan Company. 28c.

Bryant's Poems, "Thanatopsis, Sella and Other Poems," edited by J. H. Castleman, Macmillan Pocket Classics. Chicago: The Macmillan Company. 28c.

Holmes' Poems, edited by J. H. Castleman, Macmillan Pocket Classics. Chicago: The Macmillan Company. 28c.

Whittier's *Snowbound* and *Other Early Poems*, edited by A. L. Bouton, Macmillan Pocket Classics. Chicago: The Macmillan Company. 28c.

Poe's Poems, edited by Charles W. Kent, Macmillan Pocket Classics. Chicago: The Macmillan Company. 28c.

Browning's *Shorter Poems* (Cunliffe). Chicago: Charles Scribner's Sons. 25c.

Mathematics**FIRST YEAR**

PCM 1. ALGEBRA I. One-half unit credit; 20 assignments. A first course in the study of algebra, following the State Course of Study for High Schools, and dealing with the four fundamental operations, positive and negative values, factoring, equations, and transposition.

Text: Hawkes-Luby-Touton, Complete School Algebra. Chicago: Ginn & Co. \$1.25.

PCM 2. ALGEBRA II. One-half unit credit; 20 assignments. Prerequisite: Algebra I. Follows Algebra I and deals with ratio and proportion, graphical representation, radicals and roots, and quadratic equations.

Texts: Hawkes-Luby-Touton, Complete School Algebra. Chicago: Ginn & Co. \$1.25.

THIRD YEAR

PCM 3. ALGEBRA III. One-half unit credit; 20 assignments. Prerequisites: Algebra II. A brief advanced review of factors and factoring, followed with advanced work, such as graphs, exponents, logarithms, progressions, limits and infinity, theory of equations, and the binomial theorem.

Text: Hawkes-Luby-Touton, Complete School Algebra. Chicago: Ginn & Co. \$1.25.

SECOND YEAR

PCM 4. PLANE GEOMETRY I. One-half unit credit; 20 assignments. A first course in geometry, dealing with fundamental principles, triangles, parallel lines, angles, quadrilaterals, polygons, loci, chords, arcs, tangents, secants, measurement of angles, with construction problems.

Text: Ford & Ammerman, Plane and Solid Geometry. Topeka, Kan.: State Printer. 70c.

PCM 5. PLANE GEOMETRY II. One-half unit credit; 20 assignments. Prerequisite: Plane Geometry I. A course following Geometry I, dealing with proportion, similar triangles and polygons, proportional properties of chords, secants and tangents, trigonometric ratios, areas of polygons and circles, with miscellaneous exercises.

Text: Ford & Ammerman, Plane and Solid Geometry. Topeka, Kan.: State Printer. 70c.

THIRD OR FOURTH YEAR

PCM 6. SOLID GEOMETRY. One-half unit credit; 20 assignments. Prerequisite: Plane Geometry II. A course in the treatment of solids, dealing with general principles of lines and planes in space, perpendiculars, parallels, dihedral and polyhedral angles, prisms, parallelopipeds, pyramids, cylinders, cones, spheres, spherical angles, triangles, areas, and volumes, with miscellaneous exercises.

Text: Ford & Ammerman, Plane and Solid Geometry, Topeka, Kan.: State Printer. 70c.

History

PCH 1 and 2. ANCIENT HISTORY. One unit credit; 40 assignments. The first year's work in high-school history is devoted entirely to the study of ancient history down to 800 A. D., with special emphasis on Greek and Roman history. In offering this course by correspondence it is thought best to use the two sets of texts adopted by the State Board, giving equal emphasis to the political, religious, industrial and social life of the peoples who have contributed to our own civilization.

Texts: Westerman, *Story of the Ancient Nations*. Chicago: D. Appleton & Co. \$1.60.

Robinson and Breasted, *Outlines of European History*. Part I. Chicago: Ginn & Co. \$1.50.

PCH 3. MEDIEVAL HISTORY. One-half unit credit; 20 assignments. This course, following the text adopted by the state, comprises a study of the period of European history from 800 A. D. to 1700 A. D.

Texts: Harding, *New Medieval and Modern History*. Chicago: American Book Company. \$1.60.

Robinson and Breasted, *Outlines of European History*, Part I. Chicago: Ginn & Co. \$1.50.

PCH 4. MODERN HISTORY. One-half unit credit; 20 assignments. The last half of second-year history involves the study of the modern period, emphasizing the political, commercial, social and religious development of the modern European nations. This course will cover the period from 1700 to the present time.

Texts: Harding, *New Medieval and Modern History*. Chicago: American Book Company. \$1.60.

Robinson and Beard, *Outlines of European History*, Part II. Chicago: Ginn & Co. \$1.50.

PCH 5 and 6. AMERICAN HISTORY. One unit credit; 40 assignments. The study of American history is taken up near the close of the high-school course, when the student is somewhat familiar with the periods that precede American history. He has learned something of United States history in the grades, has acquired some knowledge of how to study history, and should be able to learn from the four texts required in this course the main steps in the history and development of his own nation. This course consists of a survey of American history from the discovery of America to the present time.

Texts: James and Sanford, *American History*. New York: Charles Scribner's Sons. \$1.50.

West, *American History and Government*. Chicago: Allyn & Bacon. \$1.90.

Bogart, *Economic History of the United States*. Chicago: Longmans, Green & Co. \$1.75.

MacDonald, *Documentary Source Book of American History, 1606-1913* (Rev. Ed.). Chicago: The Macmillan Company. \$1.75.

College Credit Courses

(See following pages for detailed discussions of each course.)

DIVISION OF AGRICULTURE

AGRONOMY

	<i>Semester credits.</i>	<i>Assign- ments.</i>
CA 3. Grain Crop Production	2	20
CA 4. Forage Crop Production	2	20

ANIMAL HUSBANDRY

CL 1. Types and Classes of Livestock	1	8
CL 2. History of Breeds	2	16
CL 3. Principles of Feeding	3	24

HORTICULTURE

CH 1. Fruit Growing	2	16
CH 2. Gardening	3	24
CH 3. Floriculture	2	16
CH 4. Greenhouse Construction and Management.....	3	24
CF 1. Farm Forestry	2	16

POULTRY HUSBANDRY

CPP 1. Farm Poultry Production	1	8
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DIVISION OF ENGINEERING

APPLIED MECHANICS

CE 5. Concrete Construction	1	8
CE 2. Mechanical Drawing I	2	16
CE 6. Mechanical Drawing II	3	24
CE 4. Kinematics	3	24

CIVIL ENGINEERING

CE 1. Highway Engineering I	2	16
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SHOP PRACTICE

CE 7. Metallurgy	2	16
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STEAM AND GAS ENGINEERING

CE 3. Farm Motors	2	16
CE 8. Heating and Ventilation A	2	16
CE 9. Airplane Mechanics	1	18

DIVISION OF HOME ECONOMICS

DOMESTIC ART

CHE 1. Textiles	2	16
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DOMESTIC SCIENCE

CHE 2. Foods I	1	8
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DIVISION OF GENERAL SCIENCE

ECONOMICS AND SOCIOLOGY

CE c 1. Economics	3	24
CE c 2. Agricultural Economics	3	24
CS 2. Rural Sociology	3	24
CS 3. Sociology	3	24

EDUCATION (PROFESSIONAL)

	<i>Semester credits.</i>	<i>Assign- ments.</i>
CP 8. Psychology	3	24
CP 7. Educational Administration	3	24
CP 2. Educational Psychology	3	24
CP 4. History of Education	3	24
CP 3. Educational Sociology	3	24
CP 12. Home Economics Education	2	16
CP 11. Agricultural Education	2	16
CP 1. Industrial	3	24
CP 5. Principles of Education	3	24
CP 6. Methods of Teaching	3	24
CP 9. School Discipline	2	16
CP 10. Rural Education	3	24

ENGLISH

CCE 1. College Rhetoric I	3	24
CCE 2. College Rhetoric II	3	24
CCE 3. Business English	3	24
CCE 4. The Short Story	3	24

GEOLOGY

CG 1. Dynamic Geology	2	16
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MATHEMATICS

CM 7. Plane Trigonometry	3	25
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Division of Agriculture

FRANCIS D. FARRELL, *Dean.*

Representatives of the Division of Agriculture in Department of Home-study Service

GEORGE GEMMELL, Agronomy and Horticulture
—, Animal and Poultry Husbandry

NOTE.—It will be noted that certain of the following courses require laboratory work. This phase of the course is not undertaken by correspondence, but may be deferred until the student comes for resident study.

Agronomy

Professor CALL	Assistant Professor SEWELL
Professor SALMON	Assistant Professor MULLEN
Professor THROCKMORTON	Assistant WILSON
Assistant Professor PARKER	Assistant HARLING
Assistant Professor GRIMES	Assistant PHINNEY
Assistant Professor CUNNINGHAM	Fellow TUTTLE

CA 3. GRAIN CROP PRODUCTION. 2 semester credits; 20 assignments. Corresponds to course 101, Grain Crop Production, in general catalogue. *Deferred laboratory work, 3 hours, 1 semester credit. Prerequisite: College Freshman Course in General Botany. This course specializes on the cereal crops, treating of their distribution, relative importance, production, and consumption.

Texts: Carleton, *The Small Grains*. Chicago: The Macmillan Company. \$1.75.

Montgomery, *The Corn Crops*. Chicago: The Macmillan Company. \$1.60.

CA 4. FORAGE CROP PRODUCTION. 2 semester credits; 20 assignments. Corresponds to course 102, Forage Crop Production, in General Catalogue. *Deferred laboratory work, 3 hours, 1 semester credit. Prerequisite: College Freshman Course in General Botany. This course

takes note of the origin, distribution, value and production of forage crops, including sorghums, alfalfa, clover, rape, and the grasses. Special reference is made to cultivation and handling under Kansas conditions.

Texts: Piper, *Forage Plants and Their Culture*. Chicago: The Macmillan Company. \$1.75.

Wing, *Meadows and Pastures*. Chicago: Breeder's Gazette Publishing Company. \$1.50.

Borman, *Sorghums*. Topeka, Kan.: Kansas Farmer Company. \$1.25.

Animal Husbandry

Professor McCAMPBELL
Associate Professor BELL
Associate Professor FERRIN

Assistant Professor PATERSON
Assistant Professor WINCHESTER
Instructor AUBEL

CL 1. TYPES AND CLASSES OF LIVESTOCK. 1 semester credit; 8 assignments. Corresponds to course 101, Types and Classes of Livestock (class work only) in General Catalogue. *Deferred laboratory work, 6 hours, 2 semester credits, consisting of practice in scoring and judging market and breeding types and classes of horses, cattle, sheep, and swine.

Texts: Vaughan, *Types and Market Classes of Livestock*. Columbus, Ohio: R. G. Adams & Co. \$2.

Plumb, *Types and Breeds of Farm Animals*, Chicago: Ginn & Co. \$2.

CL 2. HISTORY OF BREEDS. 2 semester credits; 16 assignments. Corresponds to course 108, History of Breeds and Pedigrees (without pedigrees), in General Catalogue. *Deferred laboratory work, which carries one semester credit, consists of a study of herdbooks and pedigrees. Prerequisites: College course, Animal Husbandry 101, Types and Classes of Livestock. A study is made of the history and development of pure-bred domestic animals and of the factors which have helped or hindered their development. Attention is also given to the leading families and breeders of the present. A detailed study of the history of two breeds is required. One of these breeds is the Percheron horse, while the other may be either Hereford or Shorthorn cattle. Of the texts covering these, only the one covering the breed elected need be purchased.

Texts: Plumb, *Types and Breeds of Farm Animals*. Chicago: Ginn & Co. \$2.

Sanders & Dinsmore, *A History of the Percheron Horse*. Chicago: Breeder's Gazette Publishing Co. \$2.50.

Sanders, *The Story of the Herefords*. Chicago: Breeder's Gazette Publishing Co. \$3.

Sanders, *Shorthorn Cattle*. Chicago: Breeder's Gazette Publishing Co. \$3.

CL 3. PRINCIPLES OF FEEDING. 3 semester credits; 24 assignments. Corresponds to course 104, Principles of Feeding, in General Catalogue. Prerequisites: College courses, Veterinary Medicine 205 (Anatomy and Physiology), and Chemistry 120 (Organic Chemistry). This course consists of a study of the digestive system and processes of nutrition, and of the theory of practical economy of rations for the maintenance, growth and fattening of all classes of farm animals.

Text: Henry & Morrison, *Feeds and Feeding*. Madison, Wis.: Henry-Morrison Company. \$2.50.

Horticulture

Professor DICKENS
Professor AHEARN

Assistant DOERNER
Assistant PRATT

CH 1. FRUIT GROWING. 2 semester credits; 16 assignments. Prerequisite: College course, Horticulture, 101. This course gives the student an opportunity to learn the general principles and specific adaptation to conditions of fruit growing. It includes a study of the larger range of possibilities and determining factors of commercial and home production, management of soils and crops consistent with fruit plantations, a study of varieties adapted to Kansas conditions, also spraying for disease, and insect control.

Text: Bailey, *The Principles of Fruit Growing*. New York: The Macmillan Company. \$1.75.

For reference: Free bulletins.

CH 2. GARDENING. 3 semester credits; 24 assignments. Corresponds to course 213, Gardening, in General Catalogue. This course presupposes the desire on the part of the student to obtain a theoretical as well as a practical knowledge of growing vegetables and fruits for home and market. Previous experience with gardening is desirable, and a home garden should be grown in connection with taking this course—simultaneously, if possible.

Text: Lloyd, *Productive Vegetable Growing*. Philadelphia: J. B. Lippincott Company. \$1.75.

Bailey, *The Principles of Fruit Growing*. Chicago: The Macmillan Company. \$1.75.

CH 3. FLORICULTURE. 2 semester credits; 16 assignments. General care, selection and arrangement of flowers and shrubs form the basis of this course. The more one knows of these choice things of nature the greater becomes the ability to appreciate them. Attention is given to the classification of ornamental plants as to their environment, soil moisture, and temperature requirements.

Text: Bennett, *The Flower Garden*. New York: Doubleday, Page and Co. \$1.25.

CH 4. GREENHOUSE CONSTRUCTION AND MANAGEMENT. 3 semester credits; 24 assignments. Corresponds to course 219, Greenhouse Construction and Management, in General Catalogue. This course treats of the approved form and construction, location, and heating systems of greenhouses. A study of the special needs and adaptations of greenhouse crops, control of fungous and insect enemies. The subject matter will be covered by the texts.

Texts: Taft, *Greenhouse Construction*. New York: Orange Judd Company. \$1.60.

Taft, *Greenhouse Management*. New York: Orange Judd Company. \$1.60.

CF 1. FARM FORESTRY. 3 semester credits; 24 assignments. Corresponds to course 113, Farm Forestry, in General Catalogue. *Deferred laboratory work, three hours, one semester credit. This course is a study of the structure and life processes of forest trees; diseases and insect damages and methods of control; care in planting and requirements for tree growth; wood lots in relation to farm home, protective features, utilization of waste land, cost of upkeep, and value of returns. Detailed study of trees suitable for planting in various parts of the state.

Texts: Fernow, *Care of Trees*. New York: Henry Holt & Co. \$2.

Cheyney, *The Farm Wood Lot*. Chicago: The Macmillan Company. \$1.50.

Poultry Husbandry

Professor LIPPINCOTT
Instructor FOX
Superintendent MUGGLESTONE

CPP 1. FARM POULTRY PRODUCTION. 1 semester credit; 8 assignments. Corresponds to course 101, Farm Poultry Production, in General Catalogue. *Deferred laboratory work, three hours, 1 semester credit. This course takes up the problems of poultry management on the general farm. The subjects of feeding, housing, breeding, incubation, brooding, and the preparation of poultry and eggs for market are studied.

Text: Lippincott, Poultry Production. Philadelphia: Lea & Febiger Co. \$2.

Division of Engineering

ANDREY ABRAHAM POTTER, *Dean*

Representative of the Division of Engineering in Department of Home-Study Service, H. H. FENTON

Applied Mechanics

Professor SEATON
Assistant Professor WENDT
Assistant Professor SCHOLER

CE 5. CONCRETE CONSTRUCTION. 1 semester credit; 8 assignments. Corresponds to course 140 in General Catalogue. This course treats of selection, preparation and proportioning of materials, construction of forms, mixing and handling concrete, reinforcements, finishing, waterproofing, and coloring, together with a study of making foundations, blocks, posts, walks and floors, tanks and cisterns, silos, and bridges and culverts.

Text: Seaton, Concrete Construction for Rural Communities. New York: McGraw-Hill Book Co. \$2.

CE 2. MECHANICAL DRAWING I. 2 semester credits; 16 assignments. Corresponds to courses 160 and 165 in General Catalogue. Prerequisite: Descriptive Geometry. Takes up selection and use of instruments, with work in lettering surfaces and intersection, methods of representation, and making working drawings.

Text: French, Engineering Drawing. New York: McGraw-Hill Book Co. \$2.50.

CE 6. MECHANICAL DRAWING II. 3 semester credits; 24 assignments. (In preparation.) Corresponds to course 170 in General Catalogue. Prerequisites: Mechanical Drawing I; Kinematics. This course treats of advanced work in drawing, using actual and full drafting-room practices. The theoretical design of cams and linkages to produce required motions and velocity ratios is taken up and given practical application. Gear teeth are accurately calculated and drawn from templates made according to the determined data by the student. Freehand sketches are made of various machine parts, from which complete working drawings are produced without further reference to the object itself.

Texts: French, Engineering Drawing. New York: McGraw-Hill Book Co. \$2.50.

Schwamb & Merrill, Elements of Mechanism. New York: John Wiley & Sons. \$2.50.

CE 4. KINEMATICS. 3 semester credits; 24 assignments. (In preparation.) Corresponds to course 180 in General Catalogue. Prerequisites: Trigonometry and Descriptive Geometry. This course treats of motions and mechanisms producing motion, such as gears, cylinders, cones, belts, levers, cams, and various linkages, giving quick return, straight-line motion, and other combinations. The graphical and mathematical solution of a great number of applied problems is required.

Text: Schwamb & Merrill, *Elements of Mechanism*. New York: John Wiley & Sons. \$2.50.

Civil Engineering

Professor CONRAD
Assistant Professor FRAZIER
Instructor FURR
Instructor WHITE

CE 1. HIGHWAY ENGINEERING. 2 semester credits; 16 assignments. Prerequisite: Applied Mechanics II. This course covers the same work as course 230 in the General Catalogue. It is a study of the proper location, construction and maintenance of roads and pavements of all kinds, including earth, broken stone, brick, wood block, asphalt and concrete, together with a study of traction resistances, cleaning and sanitation, and sidewalks, curbs, and gutters.

Text: Frost, *Art of Road Making*. New York: McGraw-Hill Book Co. \$3.

Shop Practice

Professor CARLSON
Instructor HOUSE
Instructor LYNCH
Instructor JONES
Instructor GRANT
Assistant GRANELL

Instructor STROM
Instructor PARKER
Instructor BALDWIN
Assistant AIMAN
Assistant WHIPPO
Assistant BUNDY

CE 7. METALLURGY. 2 semester credits; 16 assignments. (In preparation.) Corresponds to course 165 in General Catalogue. This course, as the name signifies, deals with the iron industry, treating of the manufacture and use of iron and steel and the various alloys in the industries.

Text: Murks, *Mechanical Engineer Handbook*. New York: McGraw-Hill Book Co. \$5.

Steam and Gas Engineering

Professor POTTER
Associate Professor CALDERWOOD
Instructor MACK

CE 3. FARM MOTORS. 2 semester credits; 16 assignments. Corresponds to course 140 in General Catalogue. A study of power-producing mechanisms, including steam boilers and engines, gas and oil engines, automobiles and tractors, water power and windmills, and electric motors and generators, giving attention to farm use of each.

Text: Potter, *Farm Motors*. New York. McGraw-Hill Book Co. \$1.50.

CE 9. AIRPLANE MECHANICS. 1 semester credit; 18 assignments. This is a new course, based upon Colvin's new book, following the outline given by the Federal Board for Vocational Education. The course deals with airplane materials, construction, instruments and motors, including a brief discussion on adjustments and touching very lightly upon the sub-

ject of flight as handled in the training camp. Many blank table forms for the student's own use are included, together with some supplementary technical matter.

Text: Colvin, *Aircraft Mechanics Handbook*, New York: McGraw-Hill Book Co. \$3.

CE 8. HEATING AND VENTILATING A. 2 semester credits; 16 assignments. Prerequisite: Engineering Physics. This course corresponds to course 180 in the General Catalogue and is intended to familiarize the student with the basic principles of heating, refrigeration, and ventilating. Use of these principles is made in the practical application of heating by hot water, hot air, and steam; of ventilating by direct and indirect methods; and of cooling of air, cold storage, and ice making.

Text: Hoffman, *Heating and Ventilating Handbook*. New York: McGraw-Hill Book Co. \$3.50.

Division of Home Economics

HELEN P. THOMPSON, *Dean*.

Representative of Division of Home Economics in Department of Home-study Service, KATHERINE M. BOWER

Domestic Art

Professor BIRDSALL
Assistant Professor COWLES
Assistant Professor JONES
Instructor FECHT

Assistant HARRISON
Assistant HUNT
Assistant GABBY
Assistant McDONALD

CHE 1. TEXTILES. 2 semester credits; 16 assignments. Corresponds to course 116, Textiles, in General Catalogue. Prerequisite: Organic Chemistry. *Deferred laboratory work, 3 hours; 1 semester credit. The growth, manufacture and use of textiles is considered from the early ages to the present time with a view of enabling the student to become a more intelligent consumer. Samples of representative textiles are mounted, together with data concerning name, width, price, weave design, fibers, uses, and sources. The student is urged to obtain current articles on textile subjects from periodicals. An outline of the chapters studied in each text is required, as is also a term paper on an assigned subject.

Texts: O. T. Mason, *Woman's Share in Primitive Culture*. New York: D. Appleton & Co. \$1.75.

Woolman & McGowan, *Textiles*. Chicago: The Macmillan Co. \$2.

Domestic Science

Professor HAGGART
Assistant Professor COX
Assistant Professor ROTHERMEL
Assistant Professor BENNETT
Instructor SMITH
Instructor GREEN

Instructor NABOURS
Instructor PERRY
Assistant MCCOY
Assistant BALDWIN
Assistant CLARK

CH 2. FOODS I. 1 semester credit; 8 assignments. (In preparation.) Corresponds to course 101, Foods I, of General Catalogue. Prerequisite: Entrance credit in Physics and Chemistry. *Deferred laboratory work, 6 hours, 3 semester credits.

Division of General Science

JULIUS TERRASS WILLARD, *Dean*

Representatives of General Science Division in Department of Home-study Service,
P. P. BRAINARD, JULIA BAKER ALDER.

Economics and Sociology

Professor KAMMEYER
Associate Professor MERRITT
Assistant Professor MACKLIN

CEc 1. ECONOMICS. 3 semester credits; 24 assignments. Corresponds to course 101, Economics, in General Catalogue. A study of economic principles underlying the phenomena of production, consumption, exchange and distribution of wealth, including a general survey of the state in its relation to industry, transportation, public utilities, insurance, and socialism.

Texts: Ely, *Outline of Economics*. Chicago: The Macmillan Co. \$2.25.

Marshall and others, *Selected Material for the Study of Economics*. Chicago: Univ. of Chicago Press. \$3.

CEc 2. AGRICULTURAL ECONOMICS. 3 semester credits; 24 assignments. Corresponds to course 102, Agricultural Economics, in General Catalogue. Undertakes to familiarize the students with the economic principles and forces with which every farmer must deal. The relative profitability of farm enterprises, the proportion in which the factors of production should be combined for the optimum results, and other phases of production are followed by the laws of values and the important questions connected with the exchange of farm products and the ultimate distribution of farm wealth.

Texts: Taylor, *Agricultural Economics*. Chicago: The Macmillan Co. \$1.25

Ely & Wicker, *Elementary Economics*. Chicago: The Macmillan Co. \$1.10.

CS 2. RURAL SOCIOLOGY. 3 semester credits; 24 assignments. Corresponds to course 224, Rural Sociology, in General Catalogue. A study of the social forces peculiar to and potent in rural life; rural organizations and growth; rural ideals apart from and related to city ideals.

Texts: Gillette, *Constructive Rural Sociology*. New York: Sturgis & Walton Company. \$1.60.

Gill & Pinchot, *The Country Church*. Chicago: The Macmillan Company. \$1.25.

Coulter, *Coöperation Among Farmers*. New York: Sturgis & Walton. \$1.35.

CS 3. SOCIOLOGY. 3 semester credits; 24 assignments. Corresponds to course 201, Sociology, in General Catalogue. A course designed to give the student a knowledge of social forces, institutions, and ideals, and the fundamental principles of social development.

Texts: Ross, *Social Control*. New York: The Macmillan Co. \$1.25.

Cooley, *Social Organization*, New York: Charles Scribner's Sons. \$1.50.

Fairchild, *Applied Sociology*. New York: The Macmillan Co. \$1.75.

Education

Professor HOLTON
 Associate Professor KENT
 Associate Professor ANDREWS
 Assistant Professor LLOYD-JONES
 Assistant Professor PETERSON
 Assistant Professor ZAHNLEY

CP 1. INDUSTRIAL EDUCATION. 3 semester credits; 24 assignments. Corresponds to course 129, Industrial Education, in General Catalogue. Prerequisites: Educational Administration. Desirable to all candidates for teachers' certificates who are preparing to teach manual training, shop work, trade courses, or other industrial subjects. This is a study of the historical development of industrial training, the present demands for it, conditions to be met, and problems arising. It includes a review of foreign systems, and of the present status in the United States, giving particular stress to successful developments fitting our modern demands, and national and state aid.

Texts: Leake, Industrial Education. Chicago: Houghton Mifflin Co. \$1.40.

Davenport, Education for Efficiency. Chicago: D. C. Heath & Co. \$1.20.

Dean, The Worker and the State. New York: The Century Company. \$1.35.

Snedden, The Problem of Vocational Education. Chicago: Houghton Mifflin Company. 40c.

Government Bulletins.

CP 2. EDUCATIONAL PSYCHOLOGY. 3 semester credits; 24 assignments. Corresponds to course 109, Educational Psychology, in General Catalogue. Prerequisite: General Psychology. Required for state teacher's certificate. This course deals with applied psychology in the field of education. The results of experimental investigations will be given attention.

Texts: Freeman, How Children Learn. Chicago: Houghton Mifflin Company. \$1.60.

Gordon, Educational Psychology. New York: Henry Holt & Co. \$1.40.

CP 3. EDUCATIONAL SOCIOLOGY. 3 semester credits; 24 assignments. (In preparation.) Corresponds to course 118, Educational Sociology, in General Catalogue. This course deals with the concrete objectives of education considered as a process of social adjustment, the meaning of education in a democracy, the educative function of the home, the community, the church, and the school; and the school as a special environment; the meaning of labor and leisure; cultural and vocational education; intellectual and practical studies; physical and social studies.

CP 4. HISTORY OF EDUCATION. 3 semester credits; 24 assignments. Corresponds to course 113, History of Education, in General Catalogue. This course is intended to present the successive relationships that have existed between educational machinery and practices, and the changing political, economic, scientific, cultural, and ideal environment from primitive times to the present.

Texts: Graves, A History of Education. Three volumes: Before the Middle Ages, During the Middle Ages, In Modern Times. Chicago: The Macmillan Company. \$1.10 each.

CP 5. PRINCIPLES OF EDUCATION (PHILOSOPHY OF EDUCATION). 2 semester credits; 16 assignments. A study of the theory underlying educational organization and practice; of conflicting interests and their harmonization.

Texts: Horn, Philosophy of Education. Chicago: The Macmillan Company. \$1.50.

O'Shea, Social Development and Education. Chicago: Houghton Mifflin Company. \$2.

CP 6-H. METHODS OF TEACHING IN THE HIGH SCHOOL. 3 semester credits; 24 assignments. A study, from the high-school standpoint, of the problems and technique of teaching, classroom organization and management, the teacher's preparation and growth, and special methods.

Texts: Colvin, *An Introduction to High-school Teaching*. Chicago: The Macmillan Company. \$1.60.

Strayer and Norsworthy, *How to Teach*. Chicago: The Macmillan Company. \$1.40.

McMurry, *How to Study*. Chicago: Houghton Mifflin Company. \$1.50.

CP 6-G. METHODS OF TEACHING IN ELEMENTARY, GRADED SCHOOLS AND RURAL SCHOOLS. 3 semester credits; 24 assignments. A study of the teacher's problems in organizing a school or classroom, in directing and governing the school life, and in presenting the subject matter of the course of study.

Texts: Woofter, *Teaching in Rural Schools*. Chicago: Houghton Mifflin Company. \$1.40.

Strayer and Norsworthy, *How to Teach*. Chicago: The Macmillan Company. \$1.40.

McMurray, *How to Study*. Chicago: Houghton Mifflin Company. \$1.50.

CP 7. EDUCATIONAL ADMINISTRATION. 3 semester credits; 24 assignments. Corresponds to course 105, Educational Administration, in General Catalogue. This course is a study of the organization of state, city and county school systems, and the administrative problems arising in them; the relation and functions of boards of education, superintendents, principals, and teachers. Rural and vocational schools are given special emphasis. The school law of Kansas is an important part of this course.

Texts: Dutton, *School Management*. New York: Charles Scribner's Sons. \$1.25.

Shaw, *School Hygiene*. Chicago: The Macmillan Company. \$1.

Kansas School Laws.

CP 8. PSYCHOLOGY. 3 semester credits; 24 assignments. Corresponds to course 101, Psychology, in General Catalogue. A general introduction to the forms and laws of conscious experience as based upon a knowledge of the psychological conditions of mental life.

Texts: James, *Psychology* (briefer course). New York: Henry Holt & Co. \$1.75.

Pillsbury, *Essentials of Psychology*. Chicago: The Macmillan Company. \$1.25.

CP 9. SCHOOL DISCIPLINE. 2 semester credits; 16 assignments. A specific and intensive study of the problem of discipline and its underlying principles from the standpoint of school efficiency.

Texts: Bagley, *School Discipline*. Chicago: The Macmillan Company. \$1.25.

Morehouse, *The Discipline of the School*. Chicago: D. C. Heath & Co. \$1.40.

CP 10. RURAL EDUCATION. 3 semester credits; 24 assignments. Corresponds to course 201, Rural Education, in the General Catalogue. A study of the special problems of the rural school, its differentiation from the city school, and of the various social institutions and organizations in the open country that are related to the problem of education.

Texts: Kirkpatrick, *The Rural School from Within*. Philadelphia, Pa.: J. B. Lippincott Co. \$1.28.

Betts & Hall, *Better Rural Schools*. Indianapolis, Ind.: Bobbs-Merrill Company. \$1.25.

CP 11. AGRICULTURAL EDUCATION. 2 semester credits; 16 assignments. Corresponds to course 125, Education, in General Catalogue. Prerequisite: Three years' college work, including Educational Administration. This course approaches the study from the administrative standpoint, and is not intended for a course in technical agriculture or methods of teaching. A study is made of the practice in and provisions for agricultural education in this and other states as well as in foreign countries. The bearing of historical developments and present conditions on agricultural education, courses of study, adjustment to local needs, and equipment are considered.

Texts: Leake, *The Means and Methods of Agricultural Education*.

Chicago: Houghton Mifflin Company. \$2.25.

Free government and state bulletins.

CP 12. HOME ECONOMICS EDUCATION. 2 semester credits; 16 assignments. Corresponds to course 121, Education, in General Catalogue. Prerequisites: Three years' college work, including Educational Administration. This course deals with the study from the administrative standpoint, and is not intended for a technical or methods course. A study is made of the best up-to-date practice and underlying theory, organization, courses of study, equipment, national, state and local provisions, etc.

English

Professor SEARSON
Professor MACARTHUR
Professor DAVIS
Assistant Professor RICE
Associate Professor CONOVER
Assistant Professor MACLEAN

Instructor LEONARD
Instructor RUSSELL
Instructor HAZLETT
Instructor HEIZER
Instructor BURK

CCE 1. COLLEGE RHETORIC I. 3 semester credits; 24 assignments. Corresponds to course 101. College Rhetoric I, in General Catalogue. The first assignments consist of a thorough but rapid review of the essentials of English, with special emphasis on the sentence and paragraph. These are followed by themes designed to develop the student's ability to tell accurately what he knows, to describe vividly what he sees, and above all to enable him to relate the subject of English to the work which he expects to do in later life.

Texts: Lomer & Ashmun, *The Study and Practice of Writing English*. Chicago: Houghton Mifflin Company. \$1.15.

Cunliffe and Lomer, *Writing of To-day*. New York: The Century Company. \$1.15.

CCE 2. COLLEGE RHETORIC II. 3 semester credits; 24 assignments. Corresponds to course 104, College Rhetoric II, in General Catalogue. Prerequisite: College Rhetoric I. This is a continuation of the work in College Rhetoric I. Special emphasis is placed on outlining, on sentence structure, and on expository, narrative and descriptive writing. Attention is directed to practical as well as literary subjects for the frequent themes prepared throughout the course.

Texts: Canby and Others, *English Composition in Theory and Practice*. Chicago: The Macmillan Company. \$1.25.

Cunliffe and Lomer, *Writing of To-day*. New York: The Century Company. \$1.15.

CCE 3. BUSINESS ENGLISH. Elective; 3 semester credits; 24 assignments. Corresponds to course 122, Business English, in General Catalogue. Prerequisite: College Rhetoric II. It consists of a thorough review of correct business forms and general business writing, with emphasis upon business correspondence and sales letters, night letters, and

telegrams. A close study is made of the principles of effective writing as they are applied in the best writing of the commercial world.

Text: Gardner, *Effective Business Letters*. New York: The Ronald Press Company. \$2.

CCE 4. THE SHORT STORY. Elective for graduates and undergraduates; 3 semester credits; 24 assignments. Corresponds to course 251, *The Short Story*, in General Catalogue. Prerequisites: English Literature or Composition and Literature II. Practice in writing short stories, based upon a thorough study of the world's best short stories, is offered in this course. The principles which underlie the matter and structure of the short story: plot, setting, action, and character analysis, are especially emphasized.

Texts: Esenwein, *Writing the Short Story*. New York: Hinds, Noble & Eldridge. \$1.25.

Lomer, *Modern Short Stories*.

CCE 5. AMERICAN LITERATURE. 16 assignments; 2 semester credits. This course is planned primarily for teachers of the Kansas public schools. Its purpose is to get the students to understand the source and evolution of our American ideals.

Text: Long, *American Patriotic Prose*. Chicago: D. C. Heath & Co. \$1.15.

Geology

Professor NABOURS
Associate Professor NEWMAN

CG 1. DYNAMIC GEOLOGY. 2 semester credits; 16 assignments. Corresponds to course 101, *Dynamic and Structural Geology*, in General Catalogue. This course consists of a brief study of the structure of the earth, of the agencies by which rocks are formed or destroyed, and of the topographical features produced by these agencies.

Texts: Chamberlin and Salisbury, *Introductory Geology*. New York: Henry Holt & Co. \$2.60.

Wooster, *Geological Story of Kansas*. Topeka, Kan.: Crane & Co. 15c.

Mathematics

Professor REMICK
Associate Professor WHITE
Assistant Professor STRATTON

Instructor MCKITTRICK
Instructor FEHN
Instructor HOLROYD

CM 7. PLANE TRIGONOMETRY. 3 semester credits, 25 assignments. Corresponds to course 101, *Plane Trigonometry*, in General Catalogue. Prerequisites: Plane Geometry and one and one-half years of high-school algebra. This course treats of the functions of acute and oblique angles and triangles with supplementary practical problems.

Text: Palmer & Leigh, *Plane and Spherical Trigonometry*. New York: McGraw-Hill Book Company. \$1.50.

DEPARTMENT OF HOME-STUDY SERVICE
EXTENSION DIVISION
KANSAS STATE AGRICULTURAL COLLEGE

Enrollment Blank

.....Date.

Applicant's full name..... Age.....

Present address

County..... State.....

PREVIOUS EDUCATION.

Years of high-school work completed..... Graduate.....

Name of high school.....

Colleges or universities attended, and time in each.....

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Degrees, if any, received.....

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Present occupation

Correspondence courses wanted.....

Remarks:

Please fill in all of the above blanks. If a resident of Kansas, accompany this blank with \$10; if a nonresident of the state, with \$15.

THE KANSAS STATE AGRICULTURAL COLLEGE OFFERS

College Courses in Agriculture, General Science, Home Economics, Veterinary Medicine, Architecture, Civil, Electrical, Flour-mill and Mechanical Engineering, and Industrial Journalism.

These are four-year courses leading to degrees. Students are accepted who can offer for entrance fifteen units of high-school work or its equivalent.

The School of Agriculture (secondary school) offers courses in Agriculture, Home Economics, and Mechanic Arts. These are three-year courses leading to a diploma. Students are accepted from grade and from rural schools.

Short Courses are offered as follows: Creamery Course, ten weeks, beginning in January; Farmers' Short Courses in Agriculture and in engineering, ten weeks, beginning in January; and Housekeepers' Course in Home Economics, twenty-five weeks, beginning in September.

A Summer School of nine weeks, beginning in June, offers courses in Agriculture, General Science, Home Economics, Mechanic Arts, and related subjects. These courses are particularly adapted for teachers; others also may attend.

For full information, write to

W. M. JARDINE, *President*,
MANHATTAN, KAN.





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